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TELEVISION SHOW BUSINESS

JUDY DUPUY

GENERAL ELECTRIC

Robert L Coe

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June 1976

TELEVISION SHOW BUSINESS

By

Judy Dupuy

A handbook of television programming and production, based on five years of operation of General Electric's Television Station, WRGB, Schenectady, New York.

PRICE $2.50

GENERAL ELECTRIC

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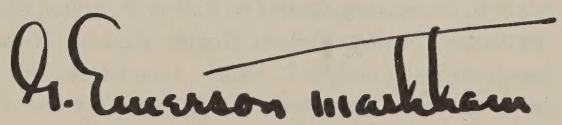
FOREWORD

JUDY DUPUY—writer, engineer, news broadcaster, and producer of beauty and fashion trade shows—is exceptionally well qualified to write a television handbook. Her past experience at WNEW and WBNX in New York, and as radio editor of the newspaper, PM, has given her an excellent background of broadcasting as show business. To acquaint herself further with the new art of television, which combines elements of both theater and radio, Miss Dupuy spent seven and one-half months at the General Electric Television Station, WRGB, at Schenectady. Here, as a member of the station's staff, she studied television programming and production from the ground up. In this handbook she has gathered together the answers that future television producers are going to want to know about this new industry, this new entertainment, advertising, and educational medium which, as she says, "with its modern magic of bringing world events into the home and broadening man's horizon, has become a symbol of the better world promised after the war."



MANAGER, WRGB

ACKNOWLEDGMENTS

BEING keenly interested in television and having faith in the future of the picture-sound radio medium, I accepted the assignment to write this book for the General Electric Company with great pleasure and not a little enthusiasm. This "labor of love" is but an infinitesimal expression of my deep-rooted belief in the home-entertainment art and industry which, coming into the American scene, will open up a new aspect of the Communications Era.

This handbook presents the experiences of the WRGB staff during the five years of operation of the G-E station at Schenectady, N.Y. The necessary research required to sort and evaluate the work done in television broadcasting took me into the WRGB studio for seven and a half months during which time I dug into files, talked, and worked with program and technical staff members, and with research engineers and scientists of the Electronics Department. At the studio I worked as a production staff member and discovered firsthand the problems of producing visual broadcasts, learning how different television, with its sight and sound, is from radio which depends upon sound alone to tell its story.

This handbook speaks for the WRGB staff, passing on their program and production techniques to be shared with television producers, artists, and technicians everywhere. Any shortcomings in detail or clarity are the fault of the author.

I take this opportunity of thanking the program and technical staffs of WRGB for their cooperation and assistance without which this book could not have been written. I especially want to express my gratitude to T/5 Douglas McMullen, now with the Armed Forces in Europe, who took me in hand and with whom I worked for six weeks prior to his induction into the Army. I also want to express my thanks to Robert B. Stone, Charles McGarrahan, Hoyland Bettinger, Seaman Robert Gould, Mariana Nelson, and Larry Algeo of the program staff; and R. L. Smith, Jane Clark, and D. E. Norgaard of the engineering staff; also James D. McLean of the Electronics Department and H. A. Breeding of the Illuminating Laboratory who read all or portions of the manuscript while it was in preparation.

Finally I feel that no preface to *Television Show Business* would be complete without a "thank-you" to Robert L. Gibson and Robert S. Peare who had the original idea that a handbook like this would be a contribution to the television industry.

J. D.

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PART I

Producing and Telecasting Programs at WRGB

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▲ IN 1928 when the first drama, *The Queen's Messenger,* was mechanically scanned, the pioneer General Electric television studio looked like the above picture, with a camera for each character and with a close-up camera for props (properties).

TODAY, with the electronic camera, the television-wise performer moves about as though on a stage. The producer, utilizing the television system completely, can achieve pictorial effects of the stage and the screen and add an intimacy new to the entertainment world. ▼

1

A Program View of Television

TELEVISION like radio and motion pictures is both an industry and an art. Electronics has made the industry possible through the successful transmission of pictures and sound into the home. Motion pictures, the theater and radio have all contributed to the art but visual broadcasting is developing a creative form all its own. It is with this art or creative phase of the sight-and-sound show business that we are interested.

This handbook of experience, based upon five years of telecasting at WRGB,* the General Electric Company station in Schenectady, N.Y., is a record of creative video, of program techniques. It is devoted to an analysis of the answers to such questions as these: What has been learned about producing studio shows from map talks, through dramas, operas, variety acts to fidgeting kid recitals? What types of shows are suited to home ear-and-eye viewing? How can motion pictures be used programwise? What about remote pick-ups of baseball games, public gatherings and other news-worthy events? What about visual education and how does music fit into television?

Out of these five years of experimentation and the telecasting of over 950 shows at WRGB have evolved the basic techniques of good television. It is with these basic techniques that this book deals.

Nine Stations Operating in 1944–45

In this handbook we are viewing television from a 1945 front-row seat, with nine stations operating in the United States: NBC's WNBT, CBS's WCBW and Du Mont's WABD in New York City; Philco's WPTZ in Philadelphia; Balaban and Katz's WBKB and Zenith's W9XZV in Chicago; Don Lee's W6XAO and Television Productions' W6XYZ in Hollywood; and General Electric's WRGB in Schenectady.

*WRGB started telecasting regularly on November 6, 1939.

Television by Mechanical Scanning

We are viewing the television art and industry that have grown out of the early television experimentations with mechanical scanning by Dr. E. F. W. Alexanderson, radio pioneer and consulting engineer of General Electric. It was in May 1928, a year after Dr. Alexanderson made mechanical scanning work in the laboratory, that the pioneer G-E television station started telecasting, using this system. Technical problems were of foremost interest then, with programming and production problems of minor importance. Yet the pioneer G-E station made program history in its first year of operation. It televised the first outdoor event in August 1928, picking up Gov. Alfred E. Smith as he made his acceptance speech for United States presidential nomination at Albany, N.Y. Also in that same year, "The Queen's Messenger," the first play to be televised in this country, was produced in the experimental studio.

Impetus of the Electronic System

Television began to emerge from its engineering chrysalis in the early 1930's but it wasn't until the scientists developed new electronic tubes—the iconoscope (in the camera) and the kinescope (picture tube in home receiver)—in the middle 'thirties, overcoming the technical difficulties of mechanical scanning, that the unique radio-picture aroused public interest and attracted the attention of show business.

Even in 1940, television was still considered by most people to be in the laboratory. It is true that NBC was doing a television program job and was turning out top-notch commercials when the guns of Pearl Harbor closed down the NBC live-talent studio. It is also true that General Electric in Schenectady and CBS in New York as well as other stations were broadcasting regular sight-and-sound shows. Yet television was more of a nine day wonder

when it went into hibernation and manpower and manufacturing facilities were turned to war work.

G.E.'s Continued Experimentation

When the attack on Pearl Harbor closed down live-talent produced shows at many of the television studios, the General Electric Company after considerable thought continued to operate its station in Schenectady on full schedule. This was not only to serve the 300-odd set owners in the area but more vitally to continue air-visual show business development so that programming would have a backlog of experience when manufacturing of television sets and transmitters was resumed.

Staffed by a small crew of engineers, cameramen, technicians and producers, station WRGB has been telecasting weekly throughout the war years. This is in addition to relaying NBC's Monday night film programs and special features (rodeos, fights, conventions) on occasion. These NBC events have also recently been relayed by Philco's WPTZ in Philadelphia.

Public Interest in Television

Television proved to be a sleeping giant that unexpectedly yawned and caught press and public attention in the fall of 1943. Television, the new entertainment medium with its modern magic of bringing world events into the home and broadening man's horizon, became a symbol of the better world promised after the war.

Surveys made during 1943 and 1944 indicate that countless people, many of whom have never even seen a television show, are saving for their first receiver. While the enlarged screen and projected picture that are on the drawing boards of development engineers will quicken the desire of some to own a set, there are others who will be satisfied with the $7\frac{1}{2}$ by 10 inch television picture.

Television as Show Business

Television is show business. The public will apply the same entertainment yardstick to this medium that it applies to radio, the theater and motion pictures. Poor shows will mean receivers not in use or people tuned-in to other stations. Good programming will have ready acceptance.

All that radio has learned, all that motion pictures have developed, are but a part of what television must learn. That is why this handbook has been written—for only television experience can answer television's show problems completely.

II

What Makes the Telecast

Television has not yet produced a Hitchcock, a Corwin or a George Abbott, but the men and women at WRGB—and this is probably true of the other eight television studios that have been operating during the war years—have contributed program-building skills and techniques acquired from the stage, from the radio and from the motion picture industry. These creative talents have been directed into a new avenue of theatrical thought out of which will come production answers unique in the planning, preparing and staging of visual shows.

In the five years that shows have been televised at Schenectady, N.Y., both from the G.E. station and by relay from NBC, New York, many basic techniques have been learned about producing effective home television entertainment. Similarly, something has been learned about production pitfalls.

Types of Television Shows

Teleshows may be divided roughly into two groups —live and film. The live telecasts in turn may be further subdivided into entertainment and informative presentations. For the first time we have a communications medium that can transmit information to the home audience by appealing to the eye as well as to the ear, by making educational programs attractive to watch. This is a step further than radio which appeals to the ear alone.

Television, an Intimate Medium

Like radio, television is an intimate medium which goes into the home and must be welcomed as a fireside guest. It can be gay or bold but never raucous, informative or entertaining but never bawdy.

Audience-View of a Television Show

In television, the audience has the same benefit of movement that it has in moving pictures. Furthermore, the audience has the added benefit of watching a television performance while it is taking place. The performance can be viewed from any angle—from front, side or back, from long shot or close-up. A studio performance can move from an indoor set to an outdoor set, from a living room to a bedroom without intermission; without halting camera "takes." The use of multiple cameras, a fundamental of good television, makes this possible.

Studio, Films and On-The-Spot Shows

Unlike motion pictures, which have the freedom of space and time, television is limited by its immediacy to stage sets or events. It must depend upon film—combining film with live action—for its seven-league boots to inject the illusion of flying or whizzing along in a train or actually jogging behind the old gray mare—if such action is part of a studio presentation. With a mobile unit television has been and will be at political conventions, sporting and other world events indoors and outdoors. Further, television will make great use of film to record and televise local and national news. It is this sightseeing-in-the-home factor that is world revolutionizing, but television programming must rely more on studio and film productions for regular fare. The mobile unit of television covers sports, theater and on-the-spot productions. Special film will produce the television newsreel. These are the added attractions, the headlines that will attract the public to television.

No Re-takes in Television

Time is the only big limiting dimension to live-produced television. Television's very nature, "seeing events taking place at a distance," means instantaneous shooting and telecasting of live action with no re-takes possible.

Also, time in another sense is a factor that must be considered. With most live programs, a great deal of time is required—time for script, time for planning

The WRGB Studio in Action
SHOWING three stage sets (musical spot, playlet and announcer) either being or ready to be televised.

a production, time for rehearsal. Even under present day limited program scheduling, considerable time must be reserved for *the* shows. Regular or run-of-the-mill shows with which the staff are familiar, receive planned or off-the-cuff productions but even they consume time in preparation. But all shows once placed before the television cameras go out on the air "ready or not." The skill or picture-sense of the producer makes or breaks a show whether it is an off-the-cuff or a well rehearsed and planned presentation.

950 Live-Talent Shows

At Schenectady, the staff has a backlog of experience based on some 950 live presentations, telecast from the original 12 by 25 foot studio of W2XB* and from WRGB's present completely equipped television station.

WRGB Studio Facilities

Before the experience gained at WRGB in televising shows can be evaluated it might be well to know something about the studio facilities available to producers and technicians. The facilities will be discussed in detail in the chapters devoted to equipment but at this point a brief introductory look at cameras, lights and controls seems necessary.

The WRGB studio (see picture on opposite page) is 42 by 70 feet with an 18 foot ceiling. A little more than half of it is used as playing area because of the location of the overhead water-cooled mercury-vapor lights which were installed prior to the war. These lights and four water-cooled mercury-vapor floor lamps furnished all the light source for general lighting, modeling, and high-lighting of the studio shows discussed in this handbook. In late 1944 experimentation in lighting was started with supplementary incandescent spotlights of the motion picture type.

Cameras for Studio and Film

There are three studio cameras, two on dollies, and one on a movable pedestal. There are also two cameras in the film-projection room, used for telecasting motion pictures or slides. This makes it possible for the producer to mix film and slides with live studio shows for story sequence, plot movement, and mood effects.

*W2XB started operating regularly on November 6, 1939 and moved into the present WRGB quarters on December 19, 1941. The call letters were changed to WRGB on March 1, 1942 when the station received its commercial license.

Control Room Facilities for Producer

The control room overlooks the studio, providing easy, flexible operation. The producer, who is concerned with the picture composition, rhythm and quality of a show, can see the picture held by each camera being used, and has a direct view of the studio floor. He sits at a console, directly in back of and elevated above the camera monitor console. The multi-channel control equipment permits any possible sequence or combination of picture mixing—switching, fading or dissolving effects to develop a flowing picture which builds entertainment-wise to a dramatic climax.

The producer, during rehearsal and during the actual telecasting of a studio show has direct one-way communication by earphones with the cameramen, the dolly men, and the stage manager. During rehearsals, he uses the studio loud speaker system to direct performers.

Video and Sound Operators

Next to the producer are two other desks, occupied by the video operator and the sound (audio) operators who also have direct one-way communication by earphones with the cameramen, the microphone boom man and the stage manager as well as direct telephone and loud speaker system connections with the film-projection room.

The video operator or technical director (TD) as he is usually called, does all the picture mixing, switching from one camera to another at specific instructions from the producer, or in planned and rehearsed shows, from shooting scripts. The TD also watches focus and other technical show details such as light flares from badly placed floor lamps and camera tangles in off-the-cuff presentations.

Sound is picked up by a boom microphone which can usually be swung around to cover the show's complete action. When necessary a table or floor boom microphone is used for an announcer or speaker and is so placed as to be kept out of the camera picture. The sound (audio) operator, who sits next to the TD, is responsible for sound level and quality, sound effects and music cuing.

Monitoring Pictures

At the monitor console on which the camera pictures are seen, a technician, designated as the shading operator, regulates quality of picture for brightness, contrast and shading. (See picture, page 146.)

Variety of Live-Talent Shows

Of WRGB's 950 live telecasts, more than 700 of them were presented during 1943 and 1944. In general they indicate the types of shows which will be broadcast visually for the first few years after the war.

Breakdown of Live-Talent Shows

Classification	Number of Programs Nov. 1939-Sept. 1944
Art	33
Children's Teleshows	60
Commercials (sales plugs)	50
Dance telecasts	32
Discussions, Talks, Round Tables, Forums	37
Drama (full length plays)	14
Drama (sketches, one-act plays)	71
Education (including Science, 33)	53
Fashion Shows	7
Games	13
Hobbies	10
Light Opera	14
Minstrels	1
Monologues	18
Musical telecasts:	
Vocal	80
Instrumental	59
Vocal and instrumental	18
News Commentary	38
Operas (full length)	2
Public Service telecasts	59
Puppet Shows	18
Quizzes	13
Religious telecasts	62
Revues	21
Special Features (including Historical and Patriotic)	26
Sports	46
Variety Shows	40
Vaudeville Acts	30
Women's programs	33
Total	958

Motion Pictures Televised

The foregoing studio shows are in addition to a similar number of motion pictures telecast during this same period. WRGB's operating schedule has been divided about equally between live talent and film shows. The motion pictures have included documentaries, cartoons, shorts, serials and feature pictures.

Motion Pictures in Television

This handbook of experience is concerned primarily with the problems of studio productions. It is not concerned particularly with the place of motion pictures in television although a chapter has been devoted to a discussion of the use of film and motion pictures. It is recognized that after the war the major television stations will have permanent motion picture departments to shoot special film footages as well as for newsreel reporting of local happenings—this in addition to mobile television units for remote pick-ups.

Planning and Producing a Show

In producing a live show, there are certain basic steps through which a program goes before being televised. The producer (the word director is not used at WRGB) must learn to work with cameramen, scenic artists, technicians, and writers in plotting and planning the teleshow's movement. He should have a picture continuity planned and sketched for every shot, scene, and sequence long before he calls for camera rehearsal. Dress rehearsal time is too late to plot camera takes, special effects, and to set scene moods.

Outline of Production Steps

The complete outline of steps involved in a television production must include:

1. Selecting a Show.
2. Consideration of the Type of Show.
   - **a.** Entertainment.
   - **b.** Informative.
   - **c.** Royalty.
   - **d.** Non-royalty.
   - **e.** Need of adaptation.
   - **f.** Original material.
   - **g.** Public service (contact cooperating group).
   - **h.** Special feature (contact cooperating group).
3. Advance Preparation.
   - **a.** Planning the presentation.
     - a-1. Type of presentation.

(Drama, musical, educational, "How To," or demonstration, talk, etc.)

a-2. Length of show.

b. Script and continuity.

b-1. Writer.

(Conference with writer.)

b-2. Skeleton outline.

(No script—only continuity or shooting outline. This occurs usually with special features, religious telecasts, etc., where the producer has little control over the event.)

c. Consideration of special effects.

c-1. Film and slides.

c-2. Music.

c-3. Camera mood shots.

c-4. Camera trick-equipment shots.

d. Casting the show.

e. Planning camera takes.

(Having the camera shots and sequences planned saves rehearsal time and usually results in better productions.)

f. Audience relief.

(Competing for attention with door bells and babies.)

f-1. If the show is long, provide a stretch period.

f-2. If the show is relatively short, provide comedy or music relief.

f-3. Concentrated viewer-attention is not required.

g. Assigning technicians.

h. Floor plan for the show.

h-1. A detailed floor plan for a program should be roughed in for the studio artist, the scene designer, etc. (See floor plan, page 166.)

h-2. The floor plan should be made after camera takes are planned to be sure that the layout will allow the desired camera movement.

i. Sets for the show.

i-1. Type (stylized or realistic).

i-2. Color.

i-3. Number of sets.

i-4. Size.

i-5. Placement (clockwise, counter-clockwise or nesting. Also pre-setup or to be set up between scenes or shows).

4. Preliminary rehearsals.

a. Line reading.

b. Setting stage business and action.

c. Checking planned camera takes.

5. Rehearsals.

a. Impromptu or off-the-cuff shows.

(No rehearsals—only preliminary setting of business and action.)

b. Planned shows with rehearsal.

(Show's routine planned with line or business run through, with or without camera rehearsal.)

c. Camera-rehearsed shows.

(Thoroughly rehearsed for every bit of action and stage business with performers and technical crew for camera, lights and sound.)

NOTE: Checking and verifying camera takes in planned and rehearsed shows are comparable to editing "takes" in motion pictures.

6. Pre-rehearsal or pre-telecast studio activity.

a. Putting up sets (according to floor plan).

b. Getting properties and having them in place for rehearsal or performance.

c. Lighting.

c-1. General.

c-2. Highlighting (placement of spotlights).

c-3. Mood or silhouette.

7. Performers.

a. Make-up.

b. Costumes (color and design).

c. Performer instructions (for camera presence in unrehearsed shows).

8. Telecasting the show.

In rehearsal as well as in the actual telecasting of the show, which calls for the closest coordination between producer, cameramen and technical staff, responsibilities in the control room and studio are divided in the following manner:

a. Control room.

a-1. Producer.

1. Has full responsibility for the show.
2. In rehearsal, edits camera takes for

story sequence. This is comparable to cutting room in motion pictures.

3. On the air, directs camera takes and warns cameramen of shots coming up (even in rehearsed shows, cameras failing, or performer mishap, may introduce an off-the-cuff editing element).

a-2. Video operator or TD (technical director).

1. Makes camera switches at direction of producer on off-the-cuff shows or shows with planned routine.
2. Makes camera switches from shooting script on rehearsed shows.
3. Cues in transitional or special effects if from film-projection room.
4. Watches focus, light flares, etc.

a-3. Audio or sound operator.

1. Rides gain for special effects.
2. Cues in music effects.
3. Directs movements of boom microphone operator.
4. Cuts in various microphones as used.

a-4. Shading operator or picture monitor technician.

1. Watches picture brightness and contrast.
2. Adjusts camera control circuits, etc.

b. Film-projection room.

b-1. Film supervisor.
Checks motion pictures and slides to be televised.

b-2. Projectionist.

1. Is responsible for having film or slides ready in projection-camera channel for cutting into picture sequence.
2. Loads film in projectors and changes slides as needed.

c. Studio activity.

c-1. Stage manager (assistant producer).

1. Floor contact man for producer for extraordinary instructions in case anything goes wrong—and anything can—during the air show.
2. Check performers and properties to see that they are in place on time.
3. Supervises set changes (if any).
4. Cues and prompts performers.

c-2. Cameramen.

1. Get shots as rehearsed.
2. Take headphone instructions from producer in control room for specific shots.
3. Follow performers and always keep them in focus.
4. Get shots in off-the-cuff programs and shows with planned routine.

c-3. Boom Microphone Operator.

1. Keep action covered by boom microphone for best sound pick-up.
2. Should be alert to cover action when performers move about or go from set to set.

c-4. Lightmen.

1. Light set for: 1) visibility, 2) depth or three-dimentional quality.
2. Light sets off-the-cuff for best possible modeling.
3. Plan lighting and see that stage set is lighted as planned.
4. Floor light operators must see that spots are directed for best possible lighting of performers.
5. Floor light operators must keep light flares* out of camera field.

The Producer and the Show

The producer, responsible for the dramatic quality, rhythm and presentation of a show, works with cameras, lights, sets and equipment as well as with story material and performers. How well he combines these ingredients can be measured by how well the program is received in the home and how much the audience likes the show.

Need of Ingenuity and Imagination

In studying the results achieved in the 950 studio-produced shows (which study makes up the balance of Part I of this handbook), it is not wise to be carried away by tomorrow's vast and expanding television horizon. What must be kept in mind is the need of ingenuity, inventiveness and imagination. Only these qualities will further television as a home entertainment medium.

*Floor lights directed into the camera lens cause light flares in the picture.

III

Variety Shows and Revues

Surveys indicate that variety shows are the first choice of WRGB's television audience, but simply bringing together a group of acts or putting a master of ceremonies before the camera with a collection of vaudeville artists does not make a television variety show. A producer must learn this quickly.

Unity of theme and unity of staging are the secrets of a successful television variety show. As a matter of fact unity is one of the basic factors required for any visual production. If it is difficult for a radio audience to follow a program that jumps hither and yon, it is much more difficult for a viewer to enjoy watching a show that is a collection of unrelated acts. It is a known fact that the eye is quicker to associate ideas than the ear. Only unity of theme makes it possible for the audience to follow the television camera.

Unity Through a Personality

One of WRGB's most successful variety shows was put on in its first small experimental studio (Sept. 15, 1940) with Ted Steele as guest master of ceremonies. To quote a set owner: "Steele toned up the entire program and his organ recital was the best number we've had on any local program." Other items on the hour telecast were a dance review and a photographic spot using slides and stills. The producer kept Steele constantly in the picture-sequences and the television audience enjoyed the program through him; that was how the show was projected. He provided the theme—the unity.

The Value of Close-Ups

Close-ups are a television *must*. People want to see the performers. The close-up, of course, must be used in rhythm with the picture sequence. It is not enough to be told that a pretty girl is playing the xylophone. The home audience wants to see if she is pretty—and she had better be if so announced. Then they want to see her hands manipulating the wooden hammers. What she plays, the sound, is secondary to the picture until viewers have had a good look at her. Since home viewers may look at the screen at any point in the program—it must be remembered that everybody will not be watching continuously—the emphasis between sight and sound must be carefully planned to hold the audience's interest throughout the telecast.

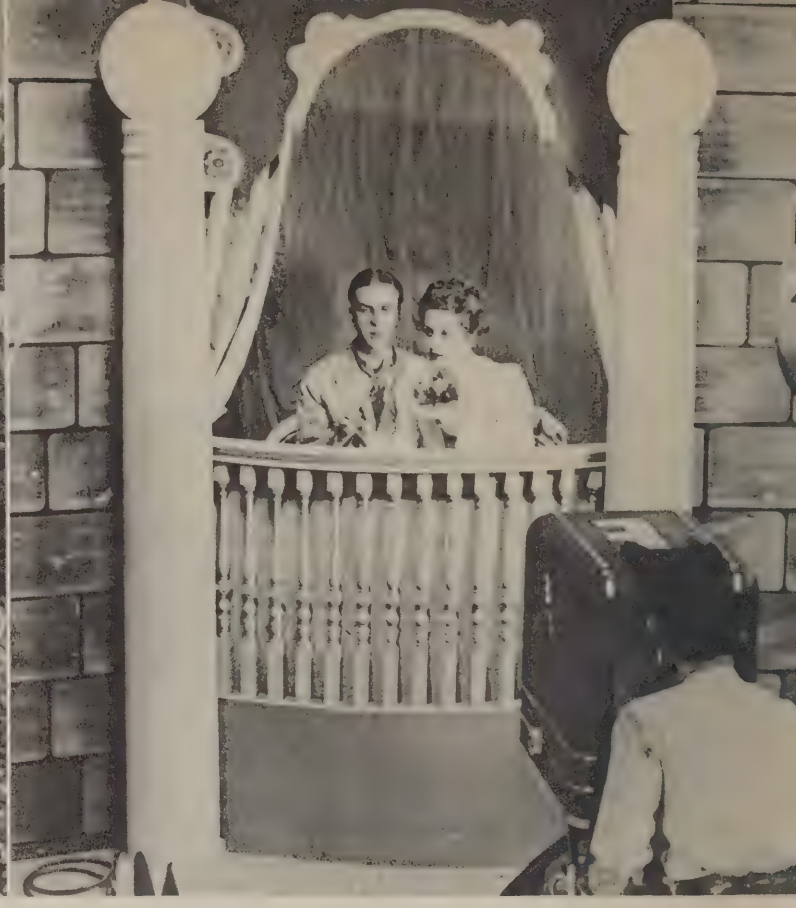
Staging the Variety Show

Staging is an important factor in the successful variety-type show. This means more than sets and costumes that project the mood of the occasion; it means placing the action so that camera movement is easy and rapid for close-ups and long shots and medium shots. It means planned camera movement and this is true of any television show, regardless of its nature.

Use of Nesting Sets

Americapers, presented by the Green Mansions Playhouse of Warrensburg, N.Y., was the most complex variety revue televised at WRGB (Sept. 1, 1944). The hour performance, composed of 11 skits, included a comedy singer and chorus, an operating room scene, a "Furlough Bride" skit, a take-off on old-time vaudeville, a "Barnacle Bill" pantomime dance and a street scene called "Mr. Verdi's on the Hurdy Gurdy." Nine stage sets were required for the 11 skits and the announcer-commentator spot. This was arranged by nesting sets, i.e., by erecting sets for two or more acts in the same playing area. When the first skit was over and the action and cameras had moved on to another playing area, the first

▲ A SIMPLE way to achieve unity of theme is through locale, such as in the above scene from *Hoe-Down Night*. The quartet was one of a variety of acts.



▲ CONTINUITY of interest is also achieved through a period atmosphere. In this Gay Nineties scene, the by-play in the tier box served to hold a variety show together.

ANOTHER way of linking a variety of acts together is through a night club setting. In the presentation pictured below, diners and a huge cut-out rooster in the background established the Chicken Shack locale. ▼

set and properties were struck, exposing the stage setting for the next act. The necessary properties were put in place and the stage set was then ready. In this way the cameras were kept moving from set to set without the need of intermissions.

Nesting Background Scenery

For the "Furlough Bride" skit in *Americapers,* which was performed in pantomime to the commentator's narration, a series of scene flats against which the action was shot was nested in a frame. An exterior with a sign reading, "To Justice of the Peace," was used as background for the soldier and girl as they tiptoed across the stage set. This flat was removed from the frame when the cameras were cut to the commentator and an interior of a lunch counter was exposed for the "bridal breakfast." Altogether there were some six flats, ending with a railroad scene. *Americapers* was well received, the home audience rating it "excellent" on the weekly rating sheet (see Chapter XXXIV, Weekly Program Ratings).

Continuity of Theme

Vaudeville acts which in themselves are interesting but which are strung together without a central theme usually fail to hold viewer interest. Conversely, setting the stage for the acts and giving them transitional continuity, can turn average material into a top-notch television show.

Sketches Coming to Life

In *Barstow's Sketches* (July 1, 1943) a variety show in which the acts were introduced by sketches drawn by a cartoonist, the drawings, through the magic of television, came to life. Here is how it was done: One camera dollied in for a close-up of the finished sketch. The vaudevillian, in similar pose, was held on a second camera and this picture was superimposed on or dissolved in through the sketch giving the illusion of its coming to life. On cue, the performer went into his or her routine. A medium close-up, or close-up shot, was cut into the sequences as soon as possible to establish the actor with the audience. The acts in themselves were not of Radio City Music Hall quality—a ventriloquist, a girl trio, a boy playing a miniature organ, and a singer and dancer—but the effect of the drawings coming to life gave the show spontaneity and zip which held home and studio audience attention.

Use of a National Theme

Other typically successful variety shows and revues included:

Scottish Night (Oct. 2, 1942) was staged with singers and performers in native costume and the play, *A Wee Diamond Ring,* was in Scottish dialect. The colorful costumes of the bagpipe band provided good camera material and with careful planning and rehearsal made for a top hour. David Lithgow, traveler and artist, was used to bind the program together. The cameras picked him up between acts to set the scene for the next item.

Russian Hour (June 24, 1943) was an excellent example of a theme setting the mood of a program. Here was a program which could have been heavy but which was one of the year's top presentations. It started with the very serious film, *Moscow Strikes Back,* with commentary by Edward G. Robinson. Russian music was interpreted by a sketch artist who drew his impressions of the music. There was also a news spot summing up the war at that time and the hour closed with the engaging, light one-act play, *A Marriage Proposal* by Anton Chekhov. The consensus of opinion of both the studio and the home audience was that the "whole program was excellent."

Copying the Vaudeville Setting

Novelty Night (June 10, 1943) featured selected specialty singles with a singing master of ceremonies who caught the vaudeville spirit and injected it into the show. The specialties included an acrobatic dancer, a roller skater, the inevitable singer, a human pretzel and weight lifter. Shows like this take exceptional camera work to keep them moving. *Novelty Night* was staged on the studio floor with the playing area curtained off by drapes on travelers—which could be pulled open and closed. The singing master of ceremonies worked in front of the curtains and as he introduced the acts the curtains were opened on camera to discover the performers ready to go into their routine. This technique does not always give a smooth picture sequence since the cameraman will have to focus the act in the camera while on the air. A further difficulty with this arrangement is that the cameras go inside the curtains for close-up

shots and invariably have to be dollied back to permit the curtains to close and to let the home viewer see them closing. The performer then is faded out on a long shot some seconds after the act is over because of the time needed to pull the camera back. A better method is to fade out the performer on the final shot of his act and fade in the transitional effect. Let black level* be the curtain closing. It is not important that viewers see the curtains closing.

Establishing Locale

Hoe-Down Night (July 16, 1943) was an all-western hour that glamorized the square dance and was rated high both in camera coverage and in entertainment. The show used two stage sets, one a corral and the other a barn. Saddles and harness festooned a cross-bar fence; hay hung from a loft. The spirit of gaiety and informality was projected through the ad lib spontaneity of the actors and encouraged by the square dance caller who led the party. Camera work was planned to get close-ups of all performers except the square dancers who were held on long shots. Some close-ups of the dancers were included but the intricate pattern of square dancing lends itself better to long-shot coverage.

A Day at the Circus (July 23, 1943) topped all variety shows for enthusiastic home audience enjoyment as was indicated by the weekly rating forms filled in by set owners. Here, too, it was felt that the quality of individual acts would not have justified the high rating of "excellent" without the novelty of presentation. The studio was turned into a big top with large cutout animal silhouettes festooning the walls where they gave atmosphere without being in the way of cameras and lights. The program opened with sequence shots at a box office, showing a long line of ticket buyers. The cameras followed some of them into the "big top" and dollied back for a view of the crowded bleachers. The studio audience was made part of the show. A clown band went through the routine of a circus overture. Actually, the clowns pretended to play the instruments while a recording by Ringling Bros. and Barnum & Bailey Band furnished the music. This music technique was utilized throughout the show. A ringmaster kept the studio show rolling. The band, the ringmaster and audience were used in transitional effects to provide time for the acts to be set up. (See picture, page 164.)

*Black level means that no picture is being transmitted—the home receiver screens go black.

Successful Show Formulas

The *Phone-In Variety* (July 29, 1943) introduced a successful formula which has been utilized repeatedly. To give unity to unrelated acts, a master of ceremonies at a telephone opened the show and explained to the home audience that they could request encores by telephoning in during the telecast. From reports it was learned that the phone number was not plugged consistently enough. The first phone-in venture also showed that the set-up was not sufficiently flexible to allow for encores because the entire show was projected from a single playing area with the acts set up just before going on. Later phone-in variety shows corrected these production faults.

For *Phone-In Variety* (Aug. 20, 1943) a main stage was used for most acts, and individual sets for specialties. All sets were kept properly lighted for quick encores. This particular show rated "excellent"—the highest rating which can be given a program under the system used (see Chapter XXXIV). The producer put thought and planning into the show so that transition from act to act or from phone-in requests to act clicked without fumbling.

Mauve Revue (Feb. 25, 1944), a Gay Nineties teleshow, featured old time vaudevillians. Interest and unity of theme were obtained by by-play which went on in a tier box at the right of a vaudeville stage set. The opening camera shot showed an old fashioned girl and her bashful beau at the theater. The girl, who was used in place of an announcer, talked about what she was to see on the stage. Slides of bloomer bathing beauties, an old fashioned shaving mug, and a bicycle built for two illustrated her "stilted speech" which set the mood of the program. A roll curtain on the stage set was held on another camera and went up on cue when the girl exclaimed: "Hush, the show is about to begin." The set was raised about three feet off the studio floor for good camera work. The stage manager, in tights, came out to introduce the acts. An effect of gas footlights was achieved by having baby spot lights blacked out by cardboard shields and having the stage manager, while going through his routine, strike a match and supposedly apply it to each spot in turn. Actually he carefully removed the paper shield giving the effect of a lamp being lighted. To further unify the show, a third camera, backstage, shot performers from the

left wing, with the girl in the tier box as background. The girl and her beau, with their progressive romance, furnished transition interest between acts. The camera covering them was cut in as the roll curtain started to descend on each act. The program ended with the girl signing off in tears because her escort had left her alone. (See picture, page 12.)

The foregoing are a few of the variety shows and revues that were and are good television both from the point of view of planned studio production and home reception.

Learning from Failures

Not all WRGB variety telecasts hit "good" on the weekly viewer reports. Some were rated "fair" and in some instances even "poor." Experimentation produces many failures as well as successes and as much may be learned from the failures as from the shows that came off as planned.

One show received poorly by the audience was *Hallowe'en Party* (Oct. 30, 1942) which consisted of truth-or-consequences games and ghost stories. This was one of those programs that was well conceived but poorly executed. The WRGB staff learned in handling the show that games are one of the hardest types of programs to televise. Here's how the staff report reads: "Ghost stories were good. Details on party favors hard to see. Impossible to see faces on apples. Need close detail in exhibiting small objects. Quiz flopped."

Altering Night Club Routines

Another attempt that fell short in execution was *Sepia Tones* (Jan. 20, 1942) the staff's first attempt to tailor a night club revue to television technique. What happened here was lack of camera rehearsal. The problem of getting performers to alter routines is a major hurdle when adapting night club or stage material to television. Cameras cannot follow dancers over the full sweep of a dance floor (see Chapter X). Here is where the small-screen and the camera field must be kept in mind. Television calls for close-space playing so that two-shots* or group pictures will have composition and definition and not look like a view through the wrong end of a telescope.

*Two-shot is holding two people in the picture being taken by a camera.

Planning Program Detail

Mount Holyoke Hour (Dec. 4, 1942) didn't hold together although it was planned as a combination Chopin musical evening, sculpture demonstration and interpretative dance recital. The sculpture demonstration seemed entirely inadequate and over-long. The sculptor modeled a head in clay but all form of creative art (painting, drawing, sculpture, etc.) must be prepared and partially completed before a program. Also camera switches often missed the timing of action and speech. This is one of the chief hurdles of television if camera work is not carefully planned, timed and rehearsed.

Telecasting a Minstrel Show

The one minstrel show, produced with local talent, *WRGB Minstrels* (July 3, 1942), achieved the gaudy and flamboyant atmosphere of minstrelsy by use of very elaborate costumes. This was especially effective for close-up shots which were used throughout the performance. It was well staged with an interesting set but was enjoyed more by the studio audience than by home viewers who rated it simply as "good." To put over a minstrel show requires professional talent, an excellent interlocutor and superb camera takes which catch and reflect the gag-tossing repartee of the endmen. Comedy, particularly the gag routine, does not lend itself readily to the intimacy of television without perfect timing and well executed camera sequences.

Amusing Mishaps

In spite of the nervous strain on the producer and staff in putting a show on the air, occasional program mishaps afford amusing relief. A scheduled Hawaiian variety show was cancelled at the last minute—as any show may be on any station. The producer was put to it to round up new talent that would fit in with the title of the revue because the studio had already been set up with palm trees and silver beach. Schenectady being in the hinterlands, professionally speaking, the producer went to Albany, about a half-hour by train, and sought out a talent agent. The agent, upon hearing what was wanted, borrowed a nickel to telephone from a hall coin box. He asked whoever answered his call, "Say, tell me. Is that war dance Harry does, Hawaiian?" To this day, Douglas McMullen, the pro-

ducer, yearns to see Harry's War Dance. What did he get? A radio team with a ukulele and a girl singer. The singer, a Georgia blonde, decked out in grass skirt and lei, sang *Aloha* with a Southern drawl.

Televising the Variety Show

To sum up what has been learned about variety shows:

1. Unity of theme increases audience interest in any given program. This can be achieved through:

- **a.** An engaging and forceful master of ceremonies, whether comic, singing master of ceremonies or straight man, around whom the action flows.
- **b.** National Theme—such as *Scotch Night,* with which the various units of the show are tied.
- **c.** Phone-In requests which naturally get viewer cooperation (this can be used for amateur hours very successfully).
- **d.** Period Theme—such as *Mauve Revue,* the *Bowery Revue,* and the *Hawaiian Revue.*
- **e.** Negro Revues, like *Sepia Tones* and Sterling Conaway's very successful *Ebony Escapades.* The camera is particularly favorable to Negro performers, catching and projecting their natural rhythm.

Also, although not discussed in the body of this chapter, a unit theme may be achieved by:

- **f.** Talent Scout—looking over acts. This method can tie together diversified performers and has the added attraction of getting viewers pulling for individual artists. Was used successfully with Skidmore College program and *G-E Talent Revue.*
- **g.** Current Topics of a timely nature can take such public service programs as Boy Scout Week out of dull routine and, with thought and preparation, become an interest-holding production.

2. Staging of variety shows requires carefully thought out and well planned stage sets which project atmosphere and allow for camera movement. Typical stage sets can be:

- **a.** Footlights and roll curtain on a raised platform. This makes a realistic stage for vaudeville, melodramas, minstrels and musical revues.
- **b.** Drapes as a background and piano on the floor. The studio set will look like a concert stage or night club setting.
- **c.** Curtains opening and closing. Curtains cue uninitiated actors and add stage illusion. It has been found that actors should be bowed off the air without benefit of closing curtain. A quick cut at the end of an act to the master of ceremonies or scene transition effect will give a smoother show. Cameras holding a close-up shot are apt to be in on the stage (studio) floor and must be dollied back to permit closing of curtains. This detracts from the act. Also, performers rarely hold an end pose. They either walk off camera or look uncomfortable.
- **d.** Painted flats, against which the action takes place.
  - d-1. Silhouette buildings, to suggest a penthouse or roof club.
  - d-2. Interiors, such as for a barbershop quartet.
  - d-3. Landscape scenes, for outdoor action.
  - d-4. Painted flats, used for quick-scene changes, can be arranged in a frame, holding from two to five flats. To change the scene, a flat is removed, exposing a different background.
- **e.** Stage properties and furniture which suggests atmosphere.
  - e-1. Cut-out palm trees against an ocean scene to suggest Hawaii.
  - e-2. Corn stalks and stall, for a husking-bee or barn dance.
  - e-3. Modernistic bar, to suggest a sophisticated night spot.
  - e-4. Bandstand against a painted backdrop of a huge rooster, to suggest a night club setting for the "Chicken Shack."

3. Camera work must be planned to include close-ups as well as medium and long shots. Full use of panning, oblique dissolves and technical effects unique to television (see Chapter XXVI) should be employed for movement and illusion. Timing of camera shots and switching from camera to camera

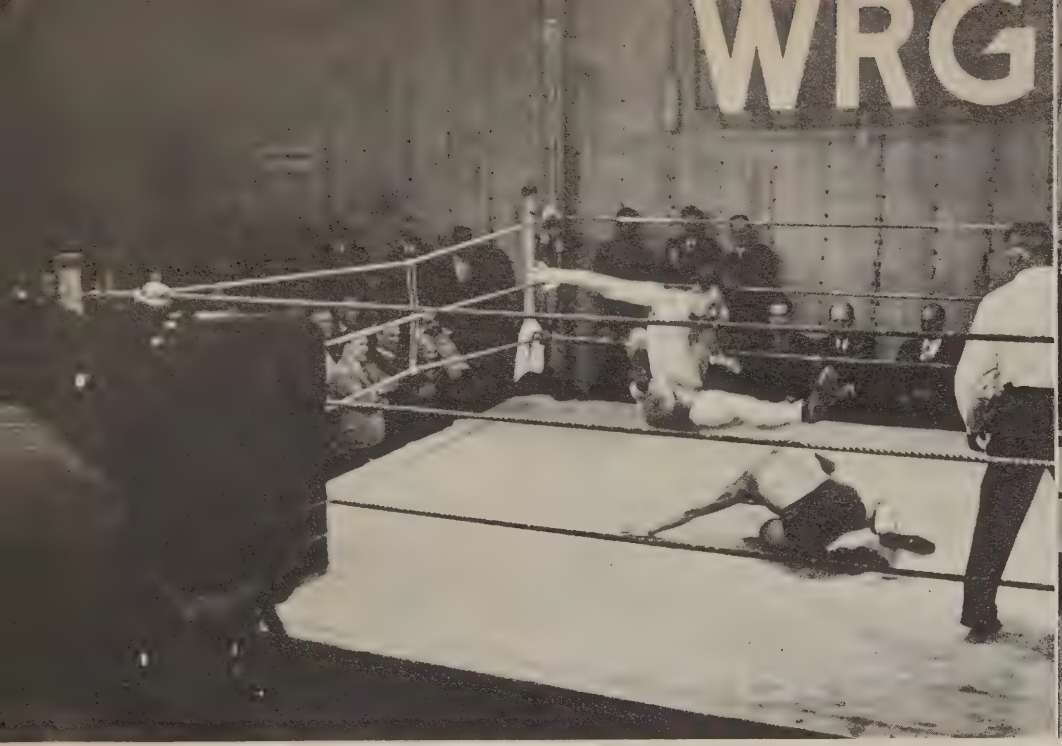
depend upon the performance or story action and should accelerate or slow down the dramatic rhythm as required.

4. Performances must end. Too much of television today fades out for no good reason—leaving the audience wondering if it's all over—until an announcer or a slide signs-off the show.

5. Rehearsals, as such, have not been emphasized in connection with variety shows. The preplanning of the show, setting the theme, sequence and details of the program, replaces a large part of the rehearsal time required in any other type of production. In variety shows, the acts come to the studio with a prepared routine. Rehearsals, which are the editing and cutting of shows, consist of a run-through rehearsal, a camera rehearsal of the show, and, if there is time, a complete technical and program staff rehearsal. Many variety shows are rehearsed in pieces, with only the producer and the technical staff knowing the scene transition so that the air show may be an "off-the-cuff" production. This is not recommended but variety shows do lend themselves to this technique.

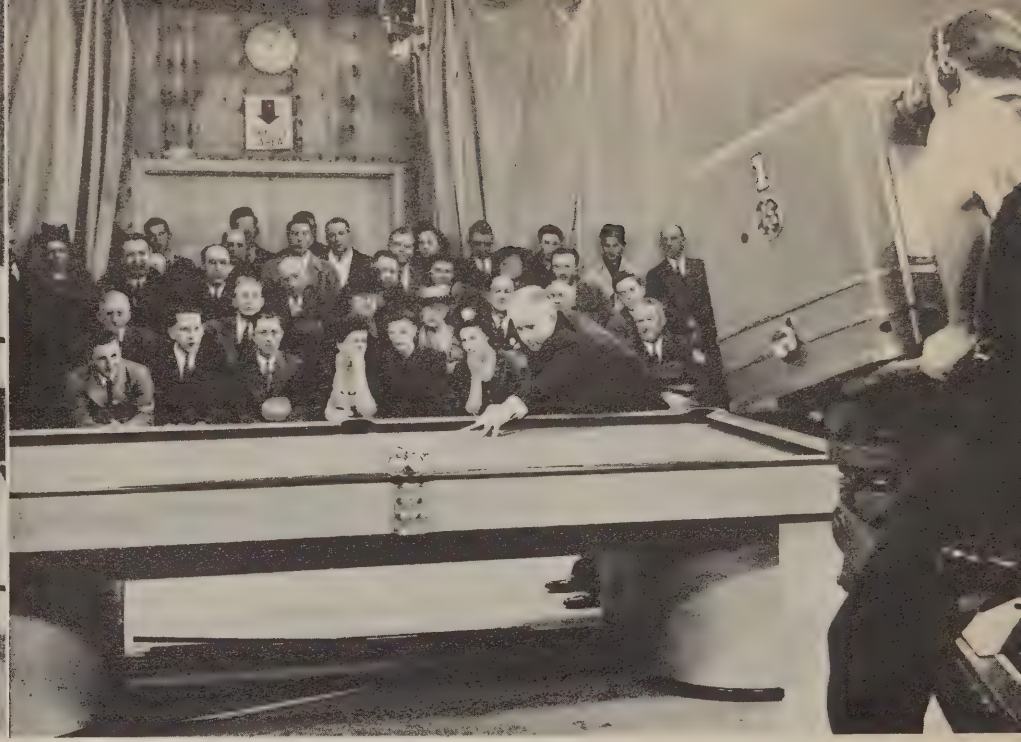
Variety Series Format

Establishing a variety format for a television series is not going to be the answer to week-by-week revues. A regular sign-on signature to identify the sponsor's product and set the mood of the show may be used if it is brief and eye-catching. From there on, however, the producer will need to apply ingenuity and resourcefulness to each part of the show to make it sufficiently intriguing for viewers to stay with the program. If a variety pattern is followed too closely the audience may say, "Oh, that's just like last week's show," and turn to another station. This will probably be one of television's major hurdles—or will it? Only time will tell. Right now we are concerned with examining and evaluating basic television program techniques from what has been learned in five years at WRGB.



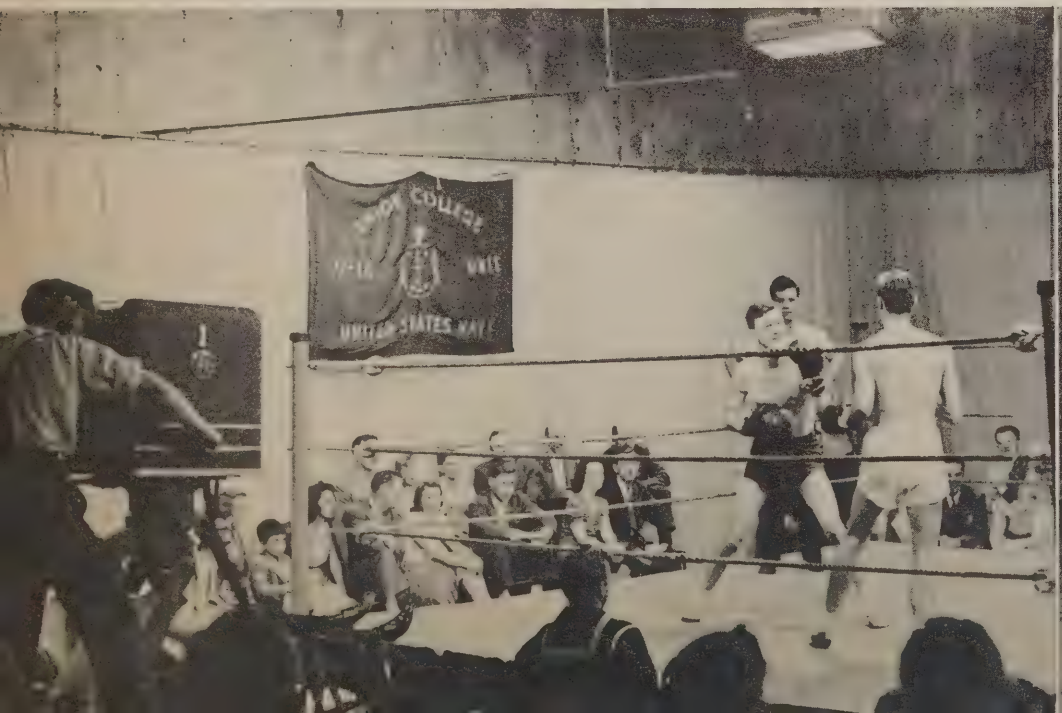
▲ A CAMERA catches a wrestling maneuver.

"BLACK trunks" hauls off for a left hook. ▼



▲ PONZI tried a difficult camera shot.

THE pooch asks for a blue ribbon. ▼



IV

Boxing to Badminton

SPORT programs rank second only to variety shows in live-talent popularity with the WRGB audience. The sport fans are at their receivers to urge their favorites on to victory. I have seen middle-aged, solemn businessmen come hours early to the studio in order to get their favorite bleacher seat for the night's boxing or wrestling matches. Tickets have had to be issued to regulate studio attendance on sport nights—the only occasion tickets have to be issued regularly. At other times, the studio is open to all visitors.

The Mobile Unit at Sports Events

In covering post-war sports, the mobile unit will play an important part in reporting on-the-scene baseball games, boxing, football, and other outdoor stadium events. The thrill of seeing a home run hit or a world's record broken as was the case when NBC televised Nurmi's track feats at Madison Square Garden in 1940, is television's great psychological attraction. NBC has been and is using its mobile unit to cover Madison Square Garden fights, rodeo and hockey games. The impact of remote pick-ups can be measured by one Schenectady viewer's comment on a hockey telecast relayed by WRGB of a Madison Square Garden event. "Thanks for relay of hockey game. One could even see the puck slide along on the ice."

Bringing Sports into the Studio

The General Electric station has no mobile unit at present so it brings sports events into the studio, turning the playing area into an arena. Boxing and wrestling are telecast most successfully. It was found that bringing the fight into the television studio and setting it up for the cameras resulted in a superior telecast over remote pick-ups from fight arenas where the camera acts as an observer.

Other sport events tested for the cameras at the studio included:

Badminton	Gym Exhibits
Basketball	Ping-Pong
Billiards	Rifle Shooting
Calisthenics	Table Tennis
Fencing	Volleyball
Fly Casting	

By taking the cameras outdoors with extended multi-conductor cables, the sports producer turned the WRGB parking lot into a diamond for softball and the front lawn into a mat for a physical training demonstration and obtained excellent picture coverage of these events.

Boxing Matches

Amateur boxing matches, AAU sanctioned, were first presented from the WRGB studio on January 31, 1942, fitting the events to camera requirements and without regard for fans in the studio. The 24-foot regulation ring was cut down to an 18-foot square ring, 3 feet off the floor, to keep the action from spreading too much for television.

When first shooting the fights, two cameras were used, one mounted on a high tower for over-all ring takes, the other was worked high on the dolly. This resulted in fairly good camera coverage. Applause and cheer records in addition to an announcer were used to create atmosphere. The consensus of opinion was that a fight-fan audience was essential to give reality to the sports event.

When the AAU Boxing shows were resumed in the fall of 1942, the studio was opened to fight fans. An average of 200 turned out regularly for the events. Home-viewers consistently rated the bouts as top television shows. Here are some comments: "Saw last three bouts and camera technique brought me

right to the ringside." "Boxing and wrestling most real program interest, particularly true for men, and even women don't want to stop looking till it is over."

The producer experimented with various camera set-ups. He found that the camera on the tower was too high. It caused the ring to appear long instead of square. A camera set on a tripod on a table caused too much of a strain on the cameraman who had to keep it tilted down to catch the action. A camera was finally located on a raised platform (4 feet high by 3 wide by 8 long) on one side of the ring. This permitted some dollying and covered the action in the ring as well as allowing close-ups of the right corner. In addition, the cameraman could swing the camera at right angles for a close-up of the announcer between rounds. The best position for the announcer was found to be on a raised platform just to the right of and lower than the camera platform. The second dolly camera covered the ring action from the floor and was able to get close-ups of the left corner.

Use of Black and White Trunks

The producer also experimented with means of easy identification of fighters during a telecast bout. It lessened visual interest when televiewers were unable to tell the boys apart. The producer got a supply of black and white trunks in all sizes and insisted upon the fighters' wearing them. This is a point that fight managers will have to take under advisement because fighters favor their maroon or gray or yellow trunks and are loth to change, but with television a certain spectator at all bouts, reporting the fisticuffs for the home viewers, the fighters' trunks become more than stable colors.

Microphone Coverage of Fights

"Pink" Gardner, one time light heavyweight world champion wrestler and Schenectady's present County Clerk, was at a table microphone announcing most of the fights. A hanging microphone over the center of the ring was used to pick up the blows of the fighters and the grunts and groans of the wrestlers as well as to catch referee's instructions and crowd's reactions.

Wrestling Matches

Professional wrestling matches are staged in the same manner as boxing bouts. The first one was telecast on December 18, 1942. The matches, although pretty good, looked much better to televiewers as a result of effective camera work of cutting in on close-ups, medium and long shots of the wrestlers, giving pace and color to an otherwise slow-moving tangle. The customers liked wrestling: "Announcer excellent. Show tops. Wow!"

Televising Boxing Matches

Fights are naturally off-the-cuff television presentations and require a quick-thinking, picture-conscious, experienced producer for good camera results. Here are some techniques learned and repeatedly tested during the 1943-44 season:

1. Television fans want to see fighters or wrestlers and to be able to identify them.
   - **a.** Close-ups were taken whenever possible. This was accomplished with two cameras covering the action—one on close-up and the other at medium close-up so that quick cuts could be made from camera to camera.
   - **b.** Black and white trunks provide contrast and easy identification of fighters.
2. Announcers must learn to report for television.
   - **a.** Sports announcers should not keep up a running commentary.
   - **b.** Since the announcer cannot see the picture transmitted while he is covering the ring action, he must avoid radio's blow-by-blow description. Televiewers can see the ring action. Announcers should give information about the fighters, reminders of blows landed in previous rounds, identification of contestants (black and white trunks), and comment briefly on specific blows landed.
   - **c.** The television announcer must learn the value of silence, must learn to pace his comments. He can make a dull fight interesting by covering lack of action with colorful comments just as he can talk too much when the boys are mixing it up.
3. Slides can be used effectively to announce end of and beginning of rounds. Also to introduce fighters, especially where there is a possibility of confusion of names.
4. The referee should avoid wearing a white shirt which reflects light and catches the eye

of the televiewer. The referee is part of the ring set-up, not a center of attraction.

Badminton and Volley Ball

Bringing other sports into the studio has not been as successful as boxing and wrestling. It was found that studio-size limitations hampered either the game or the camera work in badminton. When following the shuttlecock, the cameras had to tilt up into the overhead ceiling lights. Also it developed that too many long shots were needed for covering the game since it was impossible to get in for close-ups.

This was also true with volleyball. Attempting the game in the limited playing area of a studio resulted in only fair telecasting, especially since the playing area was further limited by the need of maneuvering space for cameras.

Basketball

In cooperation with the local YMCA, a series of junior basketball games were played at the studio during January, 1943. Rules, size of team and court were revised and adapted to the limitations of studio space. The grade school boys' teams were made up of four instead of the usual five players. A regulation basket was mounted on an 8 ft. standard instead of the regulation 10 ft. and a 26 by 40 ft. court was laid out and marked with tape (regulation court is 50 by 84 ft.).

The new rules were explained both to the boys (who practiced playing with them) and to televiewers. A lively and interesting hour resulted, due partly to the size of the boys in perspective to the court. Husky high school or college men might have looked cramped.

The game was covered by one camera. The second camera was kept on the score board. Frequent cuts were made to it, both to keep the home audience informed and to heighten interest in the progress of the game. The first camera covered the action which demanded quick dolly work and a great deal of panning to follow the ball. Most of the action was covered by long shots, with occasional close-ups, particularly when players were bunched up at the basket.

Fencing and Jiu-Jitsu

Fencing and jiu-jitsu both lend themselves to the camera eye. The action can be followed easily, with excellent pictures and plenty of close-ups possible.

Calisthenics

Calisthenics demonstrated by Russell Sage College girls (February 13, 1942) and the Springfield College Gym Team (March 8, 1942) used large areas of the studio. It was possible by cutting to medium close-ups to show details of the exercises. It was impossible, on the other hand, to get close-ups of the parallel bars, springboard and mat work of the Springfield team, because the group action was spread out and the routines were fast paced, yet the show was well received by televiewers. They particularly enjoyed several tableaux. The boys had covered their bodies with aluminum paint which reflected light and gave off a glowing quality. It wasn't necessary in the mass routines to see the individual boys. Three cameras were used to cover the show, one of them mounted on a tower to get a bird's-eye view of the exhibits.

Ping-Pong and Table Tennis

It was found that ping-pong and table tennis were difficult to televise effectively as the speed of the ball takes it out of camera range rapidly and makes it practically impossible to follow. The ball also has a tendency to fade into the background. This can be overcome by using properly colored balls (for a gray scale contrast).

Fishing

Staging a sport, giving it unity of theme, practically assures a good performance. A full hour show was built around fishing, with a personality and a topic, "Fishing with Gadabout Gaddis" (August 28, 1942). After introducing Gadabout Gaddis, a 16 mm silent film which he had made in Canada was shown. He accompanied this by a running commentary of explanation and stories. Switching back to the studio, Gaddis showed and explained the various equipment used on fishing trips and the innumerable flies dear to the sportsman's heart. Close-ups of the equipment were excellent. The fly casting, however, wasn't too effective as it needed a running brook.

Dog Shows

Whether dog shows can be termed a sporting event is a question but they make excellent television. Dogs are appealing subjects. Show dogs on the bench make good actors, although one fellow during a telecast insisted upon continuously turning his tail

to the camera lens. To speed up action, most of the dogs were pre-judged before coming before the cameras. Points were then explained as televiewers got a look at the animals. This was not only eye-arresting but informative and made the program interesting.

Pet shows warm the cockles of the heart especially when an urchin proudly exhibits his brushed and scrubbed mongrel. Such a program can be dull unless picture sequence, human interest and understanding announcing move to a dramatic climax. This calls for careful staging and detailed knowledge of the children and pets participating. Otherwise, the program develops into a series of camera shots which only a fond parent will watch.

Teaching Games

There is a large and fertile field awaiting television cameras in instructions and demonstrations of game fundamentals. This includes anything from how to hold a golf club to teaching fans the fundamentals of baseball, possibly by using a miniature field board and moving men by magnets.

Demonstrating Pocket Billiards

One of the most successful and enthusiastically received sports shows televised at WRGB was a demonstration of billiards by Andrew Ponzi, world pocket billiards champion (January 21, 1944). Great care and planning went into the preparations for the television exhibition. Three cameras were used to cover every possible angle of action. One camera was boomed high to cover the table, showing every pocket. A second camera was used for close-up play and the third was focused on Ponzi at all times for both close-up and medium close-up shots. (See picture, page 18.)

Ponzi, a showman as well as a sportsman, kept the program moving with his line of patter. Excellent camera work and planned sequences gave rhythm and pace to the half-hour, which opened with a demonstration of the eight fundamentals of correct pocket billiards and was followed by a series of 20 carefully planned and executed trick shots. If the cue or the billiard balls were out of camera range for even a moment during one of the complicated shots, the televiewers would be at a loss to know what was going on, and would perhaps even question the authenticity of the trick. To guard against this the routine of every shot was rehearsed in detail.

Billiard balls have a tendency to dissolve into the cloth of the table, depending upon the color of the ball. Contrasting colors must be used to get a variation of grays in the resulting black and white pictures. Only one trick was hard to see—a shot where Ponzi jumped a dime into a jigger glass. The glass faded into the background and the action was too fast for the camera to catch.

The boom microphone was used throughout the telecast to pick up the sound.

This program, one of the big ten of 1944, showed the possibilities of visual instruction via television, instructions designed to bring the viewer fuller enjoyment when he plays the game himself.

Taking the Camera Outdoors

During studio shows, the cameras are worked with lenses wide open. Taking the cameras outdoors was a revelation. With daylight, the lenses could be stopped down, giving better definition, greater depth of focus, and better picture contrast.

Junior Softball

As said before, by extending the cable of the studio cameras, sufficient length was obtained to telecast an outdoor Junior Softball game (May 9, 1942), the first outdoor program attempted. Here too, as in the case of the studio basketball game, it was necessary to shrink diamond dimensions and to use grade school boys for proper perspective.

Two cameras covered the game. One was set up back of home plate, the other at first base looking toward second. A 12 inch ball was used instead of the standard ball, again to limit action, to keep flies in close, keep hits from "going over the fence."

A sports announcer covered the game, using a table microphone.

The pictorial results were excellent. The diamond looked like a big league field and the teams were well matched. Televiewers enjoyed the event, commenting on its quality: "It was great to see the boys play. Should be on Sunday afternoon so that more people can enjoy them."

Physical Training Demonstration

Another outdoor telecast was a physical training demonstration by V-12 Navy trainees at Union College. One camera, located on the front studio steps, covered all the action which took place on the lawn.

Some panning was required but not too much to be objectionable. Too much and too frequent panning has a tendency to create a rocking effect.

Covering Sports by Television

Sports will always be good television. The cameras will either report the event from the side lines or the games will be staged especially for the television cameras. In either case, the fundamental production techniques of covering sport events by television have been learned at WRGB. This knowledge can be used to make sports more enjoyable to the home spectator watching the game or event on his television receiver.

V

Scanning the Drama—Its Entr'acte

THE full-length play, the dramatic unfolding of characters and action, challenges the student of television. Here a new art form must be created for the field of action of the camera lens and the intimacy of the medium. So far most of the fiction tales put before the television camera have been adaptations of stage plays, books or radio skits.

Reviewing the dramas televised by WRGB, we find that of the 14 full-length plays, including comedy, mystery, social dramas, and Shakespeare, not one was a television original and only one, *Uncle Tom's Cabin,* was especially adapted for the electronic camera. The others were straight stage plays, pruned and tightened for camera reporting. Stage directions were altered in a minimum of spots for television presentation and then only to keep the action confined to the playing space.

Audience Reaction

It is interesting to note that of the 14 full-length plays presented by WRGB in the last five years, 10 of them were rated by the home audience as "better than good" and one was hailed as "excellent." Only three were thumbed down as "poor" because of amateurish acting, length of performance, number of intermissions, or sluggish camera coverage.

The Rivals, Sheridan's famous classic, given by the Russell Sage College Dramatic students (November 18, 1942), was rated "poor" because girls acting men's roles rarely can inject force and reality into characters. Furthermore, the performance dragged out for two hours and eleven minutes and the interminable intermissions for costume changes marred whatever chances the play had of holding audience attention.

Shakespeare on Television

Shakespeare is better suited for girls acting men's roles. When Russell Sage brought *The Taming of the Shrew* to the television studio (Nov. 11, 1943) after several stage performances, the costumes, scenery and camera work, combined with adequate acting, made enjoyable television fare even though it lasted two hours and twenty minutes. At that, 25 minutes were cut from the original running time, by tightening up action and dropping scenes.

The producer had watched stage rehearsals of *The Taming of the Shrew* at the College, had plotted his camera action, and indicated cuts and changes easy for the cast to remember and necessary for a better television performance. The cuts and changes involved tightening the greatly dispersed business so that a camera could hold two or more performers during a scene. Broad gestures and long speeches were eliminated when unnecessary to the advancement of the plot. The cast had a walk-through rehearsal and one camera rehearsal before going on the air.

Slides announced the acts and scenes as well as the intermissions; incidental music bridged the waits between scenes and acts, some of them as long as eight minutes.

The results were well received by televiewers, perhaps because the many close-ups had been graphically set and rehearsed, particularly to cover actors during soliloquies. However, the audience approval was not because of television alone but because of good camera reporting of a stage performance.

The first full-length Shakespearean play presented on television, at least in this country, was *Twelfth Night* on March 24, 1943 by The Mountebanks of Union College. Dress rehearsals indicated that this was a colorful and unusually well acted performance. The many long speeches which can be held on one camera seem to indicate that from a studio technician's point of view, Shakespeare's plays are well adapted to the television camera. But

in spite of the professional caliber of the show, the two-hour performance proved tiring.

Televising the Farce

The most successful adaptation of a stage rehearsed play for television was *Help Yourself* (November 13, 1942), the three-act farce by Paul Vulpius performed by the Schenectady Civic Players, a semi-professional group. This was an experiment in timing a farcical play without benefit of a studio audience. The actors were well up on lines and readily adjusted stage business to the restricted playing space so essential for studio camera takes. They, however, felt the need of playing to an audience even though they had had five camera rehearsals before going on the air.

Building Picture Sequence

Motion picture film was used to set the atmosphere at the opening of *Help Yourself*. The results of the camera rehearsals, the technique of including the film, the use of slides and charts showed in the final reaction of the audience. The play was rated "excellent, better than the actual stage production for those who had to sit in back of the theater." This was more than a camera reporting job—it was an approach to building mood and scenes into a flowing sequence. Its comedy brought laughs although some were lost because of poor sound coverage. The boom microphone was used, which is usually adequate, but some important asides were hard to hear.

In writing the television version of Harriet Beecher Stowe's book, *Uncle Tom's Cabin,* Robert B. Stone, who also produced it, ignored all previous stage dramatizations of the social epic. He used camera technique and television equipment tricks to highlight and underscore the story of slavery. The television adaptation (May 12, 1942) involved five sets and ran a full hour. Rehearsals were spread over five weeks, with several hours of rehearsal each week for reading and setting of characterizations, and finally, complete dress rehearsal, with every camera take plotted. Television, though, is show business and in spite of rehearsals, and having every piece of business set, anything can happen on the air. At Uncle Tom's death, a recording of *The Battle Hymn of the Republic* was to have backed the scene. What actually was played was *America.*

Use of Picture Effects

The manner in which slides can enhance the drama of a play and can get and hold viewer attention, was demonstrated in *The Betrayal,* a passion play presented by Siena College and The College of St. Rose (April 3, 1942). A film-slide* résumé of the world-famous Passion Tragedy of Oberammergau was included in the prologue to set the solemn mood of the play. *The Betrayal,* the first full-length play televised at WRGB, was an ambitious undertaking and its success encouraged the experimenting group to further dramatic presentations.

The Intermission Problem

When *Brief Music,* a comedy in three acts and eight scenes by Emmet Lavery, was presented by the Russell Sage College Dramatic Group (March 3, 1943) the acting and plot progression failed to overcome the many long intermissions. Yet when this same play was performed by the Schenectady Civic Players several months later (October 1, 1943) televiewers rated it "better than good." A hand-picked cast was used, adequate television rehearsals were scheduled and scene transitions cut down the many intermission waits. Costume changes made a few fairly long intermissions unavoidable, but many of the between scene waits could have been omitted with some re-writing for television.

Typical Plays Televised

Other stage plays brought in for television performances included Noel Coward's *Hay Fever* (January 1, 1944), see picture of stage set on page 2, and J. B. Priestley's *Time and the Conways* (March 23, 1944), both presented by the Feagin School of Dramatic Art of New York City.

The Feagin School had rehearsed *Time and the Conways* for full stage action. The cast came up from New York the evening before the telecast bringing their own costumes. The set, built to scale from the stage layout, was cut down horizontally, approximately one-third, which helped somewhat in getting close-action playing. However, the whole day preceding the evening performance was spent trying to tighten up scenes and business so there was time for only one full camera rehearsal.

*Film slides can be either 35 mm frames or 3¼ by 4 inch negatives. In this case, they were 35 mm frames, shot on motion picture film in the order in which the pictorial copy was to be included in the television program.

Backgrounds and Performers

The walls in stage sets I and III of *Time and the Conways* were painted a dusty brown (50% gray scale) which under normal circumstances is safe. Usually in black-and-white television, costumes are on the light or dark side of the gray scale. However, it is impossible to predict redheads and blondes and in this case, they melted into the background. In Act II the settings were changed, giving a modernistic touch to the room but the blue and white drapes used turned out to be a highlight. All the characters wore dark suits, including the women, so the drapes always caught the eye.

Intermission Effects

A film loop* of a swinging pendulum, backed by music ticked out the two intermission waits—a striking and symbolic touch for *Time and the Conways.*

Televising "Alice in Wonderland"

One of the most difficult plays attempted at the studio was Russell Sage College's *Alice in Wonderland,* the Eva LeGallienne version of the Lewis Carroll classic. The full length production, in 15 scenes, ran over two and a half hours.

The cast arrived for camera rehearsal in the afternoon of the day of the show. The producer had seen the show three or four times at Russell Sage and had plotted camera shots. The colorful costumes, the animal masks and the stage sets gave a story-book atmosphere which was carried out in the production.

Fantasy Effects

Special television techniques were employed to heighten the fantasy effects:

1. The appearance and disappearance of the Cheshire Cat was accomplished by using a half-lap dissolve.† The cat was so placed as to be held in the left field of camera No. 1. Alice was held in the right field on camera No. 3. Then by using the half-lap dissolve the cat was made to appear and disappear. For the cat's grin, unsupported by the cat, a drawing on a slide was dissolved in and out, thereby retaining one of the fantasy effects impossible to achieve on the stage.
2. The scenery, used to emphasize Alice's shrinking and growing, had to be changed on stage, Chinese theater style, without getting into the camera field. A little table and little door replaced a big table and big door. (See picture on page 162.)
3. Alice's shrinking was further emphasized by having her crumple to the floor and having the camera follow her down in such a way that she seemed to be shrinking.
4. The effect of cards tumbling about Alice's head was obtained by two cameras. One camera, holding the card characters, was jiggled in a revolving motion and the picture it took was superimposed over the picture of Alice held by the second camera.

Long Intermissions

In *Alice in Wonderland,* slides were used both for announcing Act and Scene, and for Intermission. The Intermission slides, backed by specially selected mood music, were held during the entr'actes, but the change-of-scene lags were long and many.

Factors Affecting a Dramatic Form

In reviewing the experiences of camera reporting stage plays on television, we can underscore certain factors which must receive definite study and solution for an effective television art form. The foremost of these are:

1. Action must be planned for camera takes.
   a. Stage business must be plotted to take place in limited playing areas. This does not mean that sets must be restricted but that each scene within the sequence must be played with actors practically hugging each other. The peculiarity of the camera viewing a scene from various angles tends to affect the perspective, giving an optical illusion of spaciousness to what is actually cramped space to the performer.
   b. By plotting action within limited playing space, the cameras can cover every piece of

*A film loop is a short length of film footage, usually about three feet long, which is spliced together forming a loop and which can be threaded on a motion picture projector. Once the picture is started, the film loop runs continuously and is available to be cut into the television picture sequence at any time.

†A half-lap dissolve is obtained by gradually superimposing a picture held by one camera on the picture held by a second camera. The two are then held at half-value, with both clearly defined and broadcast simultaneously. Going beyond half-lap dissolve causes one or the other to fade out.

business. The takes can be planned to be switched from close-ups to long shots to build the scene and the story continuity.

c. Stage sets must allow freedom of camera movement for close-ups and long shots. With two or possibly three cameras covering an act it must be remembered that camera maneuvering takes considerable floor space.

2. Special effects, possible with multi-channel control equipment, including the use of film and slides interspersed with studio shots, have a definite dramatic force which must find a place and value in the television drama-form.

3. Intermissions may be advisable for stretch periods and spot commercials. Special pictorial effects suggesting the mood of the show can be telecast during intermissions and a bell rung, or other oral announcement made, calling the home audience's attention to the resumption of the performance.

4. Length of production is a moot question.
   a. As has been noted, the camera reporting of some stage plays has run as long as two hours and a half. Radio, since it is broken down into relatively short time intervals, usually restricts dramas to half-hours and in the case of *Lux Radio Theater* to one hour, including commercials and intermissions. Motion picture features usually have a running time from one hour to one and one-half hours.
   b. So far no ideal running time for the television drama has been found, because: 1) the time value of television programs has not been determined, 2) the television drama-form is yet to be set, and 3) the fatigue factor is still undetermined. No one yet knows how long a television audience can watch a show without becoming tired or bored.
   c. The television audience, in stating its preference for dramas, has indicated that it enjoys a play lasting from a half-hour to an hour—preferably an hour. The home audience will watch a two-hour play but surveys indicate that set-owners prefer their television drama to be shorter.

5. Performers will have to learn the technique of "hugging" without stiffness, will have to "feel" playing for the intimate medium. (See Chapter XXXII, *Acting Technique for Television.*)

6. Stage sets must be designed for the atmosphere of the play with due consideration to background values on the receiver in the home. Interest is sacrificed when the people melt into backgrounds—they become drab. Of course, lighting of stage sets must be taken into consideration at the same time that sets are designed. One is relative to the other. The scenic artists and lighting technicians must work together.

7. Rehearsals are a television must. Too much emphasis cannot be placed upon the need for rehearsals, both to allow the performers to become letter perfect in lines and business and to allow the producer to plot and edit camera shots for full pictorial story effect. Once the producer puts a drama on the air he has no control over editing story sequence. An average of six hours was devoted to preliminary run-through studio rehearsals of plays telecast at WRGB. This included two hours working with full technical and camera crews. It must be stressed that these figures are based upon camera reporting stage shows and not on presenting original full length television dramas.

The Playwright

No mention has been made of the playwright or script writer because he did not enter into the WRGB picture. The writer, however, must study the new visual-sound medium, its scope and its limitations, before he can write effectively for television. The writer's adroit use of action, pictorial and sound effects, and dialogue will make the producer's job easier, giving him story material planned for visual presentation.

An Awaiting Audience

The experience gained by camera reporting of stage-directed and performed plays has served to point up the need for a television drama-form. When drama has been fitted to the camera, television will bring the theater into the home and will find an appreciative audience.

▲ TWO cameras catch the pert laundry maids in *'Op-o'-Me Thumb*. Action was directed for camera close-ups.

HOW to establish, realistically, the interior of an airplane is graphically presented in this shot of *Death on Flight Forty*. ▼

VI

The Short-Form Drama

Television is destined to give a new impetus to the short-form drama—the one-act play, sketch and skit. Radio makes great use of the half-hour narrative and such masters as Norman Corwin and the late Stephen Vincent Benét have given a new art form to sound-drama. But the "short" in motion pictures usually gets "B" treatment, and even in the theater the one-act play rarely receives top billing. In television, however, the playwright and the producer will find an expressive medium of sight, action, and sound for presenting drama to a mass audience.

Seven Originals Out of 70 Shows

It has been noted in the previous chapter that not one of WRGB's full-length dramas (three acts or more) was especially written for television, but were adaptations of plays and books. The short dramas, also, were more frequently camera reports of stage material. Of the more than 70 sketches telecast at Schenectady during the past five years (60 of them in the past three years in the modern, fully-equipped studio), only seven were television originals. The rest were tried and true one-act plays or adaptations of radio sketches.

Definition of "Short Drama"

The term "short drama" does not necessarily limit story action to one stage set or to a specific unit of broadcasting time. Some one-act plays run as long as an hour, and some may involve several sets for sequence and scene building the story to a climax.

First Television Dramas Adaptations of Radio Sketches

Since radio people were among the first to be interested in television as an entertainment medium, it is only natural that radio-produced shows were used for television camera material. Such radio sketches as *Whoozis at the Dike,* Milton Geiger's *Sentenced to Life* and Agnes Ridgeway's *Courage à la Carte,* originally broadcast on the *Rudy Vallee Variety Hour* (then handled by the J. Walter Thompson advertising agency), were telecast by the radio staff of that agency working in cooperation with the staff of the Schenectady experimental station W2XB back in 1940, for the purpose of learning camera and television techniques. It was a mutually beneficial arrangement yet it was an attempt to adapt television to radio. Both groups soon learned that television was a medium with scope and limitations peculiarly its own.

Television Techniques Learned

What they did learn was the value of close-ups. They also learned how to use slides and film to heighten scene sequence and to effect smooth transitions. For instance: An actor is seen writing at a desk. It is important to see what he is writing so a previously made motion picture of the actor's hand and the writing is inserted exactly on cue.

Use of Stock Film and Musical Score

The technique of incorporating stock film in studio productions to give movement and dramatic mood to a presentation was effectively demonstrated by *The Strange Will of Charles Loundsberry* (Nov. 15, 1940). Mr. Spencer and John Quinn of the J. Walter Thompson agency spent considerable time at the General Film Library in New York looking over hundreds of feet of stock shots to find scenes which would pictorially symbolize the emotional and story content of that unique will. At the station, a full week was spent cutting and editing the film to conform to the script. The actor, Gene Leonard, who read the will, memorized those parts when he was on camera

and read the parts that backed the film sequences. He took signals from a stage manager to speed up or slow down to conform to the film, without losing the dramatic effectiveness of the reading. A carefully chosen musical score added to the drama of the program. Thus advantage was taken of several entertainment factors. The immediacy of the studio presentation was blended with the pictorial values of the motion picture through the full use of the flexible control room equipment.

The result, as one viewer put it, "was so smoothly done technically that I thought it was a film."

Seven Dramas Rated "Excellent"

An examination of audience reaction to the 70 or more short dramas produced at WRGB (ignoring those presented in the one-camera experimental studio) reveals that 46% were rated by televiewers as "better than good" and that seven were rated "excellent." Of these, one was rated "excellent" both on its original presentation and on its repeat performance. That play, *The Valiant* by Holworthy Hall and Robert Middlemass, one of the most popular one-act plays ever written, was planned for television so that 90% of all camera shots might be considered close-ups. The cast rehearsed over five hours each week for three weeks and had three camera rehearsals. Every piece of business and every gesture was set. It was first presented on October 16, 1942 and repeated a week later.

Other dramatic presentations which were rated "excellent" by the WRGB home audience included:

1. Kenyon Nicholson's *Meet the Missus* on its repeat performance (March 16, 1944). It had received a rating of "good" on its original presentation, a week earlier.

2. Susan Glaspell's *Trifles* (May 11, 1944), performed by the Mont Pleasant High School dramatic group of Schenectady.

3. John Kirkpatrick's *When You Marry the Navy* (May 12, 1944), presented by the Feagin School of Dramatic Art of New York City.

4. Eugene Pillot's *Two Crooks and a Lady* (July 28, 1944) with a cast of four from the WRGB Players.

5. *Crime in the Clubhouse* (Sept. 15, 1944) and *The Eighth Step* (Sept. 7, 1944), both Television Workshop presentations. The plays had been directed and rehearsed in New York by the Television Workshop and were produced by WRGB.

"Excellent" Rating Due to Production

In analyzing these plays, it is concluded that the top rating of "excellent" was based on superior performance and production. No unique television techniques were employed for picture effectiveness other than well-planned camera work, except in *Two Crooks and a Lady*. In this play the mood was set by the opening scene, a sequence of stealthily walking feet seen by the audience before they discovered whose feet they were. Also in this play, use was made of a mirror to reflect the scene in which the crook pocketed a gold jewel case.

In each play, the cast was well rehearsed both for camera action and for line and stage business, even in *When You Marry the Navy* which was brought up from New York where it had been presented as the senior year stage play. The sets for each show were designed to reflect the mood of the play. For *Trifles*, a New England sitting room was complete with potbellied stove and sewing cabinet.

Audience Rating of Television Originals

Of the seven television originals telecast over WRGB, five dramas were rated "better than good" by televiewers and two as "acceptable." These shows ran the gamut from patriotic and historical playlets to romance, adventure and dyed-in-the-wool mystery. The two that failed to hold interest were a psychological mystery and an "up from the sidewalks to glamour" romance. *The Tower Room* (July 22, 1943) was an experiment from a scenic and background point of view in projecting the mood of a gloomy, ghost-haunted castle through television. Too much emphasis was placed on atmosphere and not enough on story continuity. The other play, *Meet Miss Subways* (August 6, 1943) by Gene Kuhne, had an intriguing theme (a subway poster comes to life, showing how the girl was selected as a Miss Subways candidate). It was well acted but lacked reality. This may have been due to tying the play too closely to its commercial for Vimms Vitamins.

This does not indicate that commercial tie-ins are interest killers because *Death on Flight 40* (December 10, 1943), an original melodrama by Henry V.

Larom of BBD&O, opened with the heroine, actress Glendora Donaldson in airline hostess uniform doing the commercial for G-E Mazda Lamps and the cameras followed her right into the play. The whole show was rated as "better than good." (See pictures, pages 28 and 122; also see script, pages 188 to 196.)

Realistic Set and Film Effects

The action of *Death on Flight 40,* involving a Nazi spy and an Army private, took place aboard a passenger transport in flight. The stage set, an interior of a plane, was erected on a platform three feet off the studio floor—allowing excellent camera coverage for close-ups and panning* along the row of seats. Movement was introduced into the melodrama by cutting in on cue a film showing a plane in flight. This heightened the drama of the story, especially when a Nazi was forced out the door—a moment which almost turned into a performance catastrophe. The door stuck. The alert producer covered the awkward moment by quickly cutting to another camera. (See picture, page 28.)

Script by College President

One of the first successful television originals, *An Ode to Liberty,* was written by the late Dr. Dixon Ryan Fox, president of Union College, commemorating John Howard Payne, one-time student of Union and writer of *Home Sweet Home.* It was performed by The Mountebanks, campus drama group (July 3, 1942).

The set, Payne's room at the college, was an exact replica of those days, even to the stove, an invention of the first head of Union College.

Outstanding Technical Show

One of the outstanding shows, technically, produced at WRGB—a television original by Charles Wilde called *The Sound Effects Man* (April 14, 1943), tied in special motion picture film with the studio production. (See Chapter XXXIII, pages 186 to 188.) Many exterior scenes were shot on 16 mm. silent film, using the actors of the play. Some of the film scenes were used for montage effects, sound being dubbed in later in the studio. Some film scenes were used to provide exterior shots impossible in the studio, such as seeing the actors leave a building, enter an automobile and drive away. The result was a continuous action story which would have been impossible to produce in the studio.

*Panning shots involve horizontal movement of the camera—either to the right or left—by the cameraman while the scene is being televised.

Special Film and Camera Shots

In the montage scene of *The Sound Effects Man,* a girl and a woman were talking on the telephone to each other—one at home, the other from a booth. The specially shot film footage showing the girl playing tennis, swimming, motoring, skiing and ice skating with the hero of the play was cut into the studio sequence to indicate the friendship which had developed between the two young people. Also, to get the dramatic effect of the two women talking to each other, a lateral dissolve was used to show both of them at the same time. The girl was held on one camera in the left side of the picture; while the woman was held in the right field of the second camera. Thus when the two pictures were dissolved in on the air, both women could be seen by the audience. To assure perfect synchronization of sound and picture, the scene had been rehearsed and recorded, the record being used for the sound in the actual performance.

The plot of *The Sound Effects Man,* an adventure romance, revolved around a radio sound effects man and his girl friend. It required five sets, one a replica of a radio broadcasting studio. The television audience rated the show "better than good."

Writing Scenes for Camera Coverage

When writing fiction for television—instantaneous camera shooting—careful plotting of camera coverage results in a more dynamically told story. Miriam Tulin, a student of the Drama Department of Yale University School of Fine Arts, sketched every camera "picture" in her television adaptation of her stage-written play *Where There's a Will* (April 4, 1944) so that she had a continuity sequence of pictures in addition to a written script.

The play was also rehearsed at Yale by Mrs. Tulin with effective camera angles always in mind (she had no real camera available). When the play was brought to Schenectady, the station producer found that a majority of her sketch-planned shots were excellent. Changes were made only to tighten business and to reduce playing space, easily done in four hours of run through and camera rehearsal. The result was good television.

Plays Adapted for Television

Some of the other short drama adaptations first presented by WRGB and rated "better than good" included *End of the Dance* by Hudson Strode (February 6, 1942), performed by the Feagin Drama School and selected because the denouement was in pantomime; *World Without Men* (February 13, 1942) acted by the Russell Sage College drama group; and *Dropped Stitches* (February 20, 1942) a television adaptation of a radio script.

Adapting Dorothy Parker's Sketches

Recently Larry Algeo, staff producer-writer-actor, adapted two of Dorothy Parker's intimate, character sketches, *Here We Are* and *The Waltz,* for television. He gave them vivid settings and plotted them for camera action to capitalize on every shade of emotion and every suggestion of satire. Performance permission was obtained from the Viking Press, publishers of *Here Lies,* a collection of Miss Parker's works.

Televising "Here We Are"

Under Algeo's direction, the cameras captured the poignant adolescence of the two youngsters on their wedding trip to New York in *Here We Are* (June 8, 1944). Film was used to set the scene and to inject movement into the sketch. A motion picture of an onrushing passenger train, to the accompaniment of clacking wheels and forlorn whistle, opened the play. This was faded into a camera shot of the couple seen through a Pullman window. The camera was dollied in for a close-up and then the producer cut to the interior of the compartment. The locale was frequently re-established by cutting to a shot through the Pullman window, focusing attention on the boy or girl as the continuity called for it. The film of the onrushing train, inferentially approaching Grand Central Station and a new world, closed the play.

Close-Ups of "The Waltz"

Two cameras were used to shoot *The Waltz* (June 30, 1944), the one-character study of a girl's "torture" as she goes through the gyrations of a dance with an imaginary, clumsy partner. The producer plotted every step, every bit of business for mood and camera close-up. The cameramen had to work every second to cover the whirls and stumbles as did the microphone boom man to catch the monologue. The conclusion: Dorothy Parker's works, which are sophisticated and adult, are especially suited to television.

Repeat Performances

Certain one-act plays will probably become television stand-bys, judging by the audience enjoyment of repeat performances of Glenn Hughes's *Red Carnations,* Anton Chekhov's *A Marriage Proposal* and Arthur Hopkins's *Moonshine. Red Carnations,* a simple love story, which uses a park bench set, was first performed by the WRGB Players on October 10, 1940 and repeated with a different cast on March 9, 1944. Both times it was well received. An attention getting opening helped to sustain interest. Credit slides, backed by music, introducing the play, were dissolved in over a huge carnation, which in turn dissolved into a flower in the button-hole of the waiting park-bench swain. Similarly, "The End" was dissolved in over the flower as it was plucked from his lapel and tossed away.

Chekhov's *A Marriage Proposal,* a one set farce, was camera reported effectively in its two presentations, June 24, 1943 and April 14, 1944. Its cast of three, its amusing dialogue, its theme of feminine perversity were enjoyed by both studio and home audience.

The Need for Skilled Performers

In Arthur Hopkins's *Moonshine* (January 16, 1942 and February 10, 1944), a two-wing log cabin set projected the mood of the play which was opened with title and cast credits cut in wood, backed by hillbilly music. The first presentation was not well received. The play lacked movement because of the stiffness of the performers although they had been given several run-through and one camera rehearsals. The 1944 cast caught the spirit of the "mountain boys" and the camera sequences carried the story along to the last swig from the corn jug with "The End" printed on its bottom for a signoff.

Stage Sets Help Performers

Sets and lighting cannot be overlooked in projecting the mood of a play. For Noel Coward's *Fumed Oak,* presented by a Russell Sage College cast (December 2, 1943), a Victorian living room which opened onto a hall set the keynote. For television the

stage set used was closed in for tighter playing than the cast had rehearsed with for its stage performance. Producers have found that it is simpler to limit acting space, forcing performers into good television technique for holding close-ups and group shots than to attempt to change their action consciously in the limited camera rehearsal time allowed for outside prepared shows. The players forget changes at air time and, if not restricted by playing space, are apt to spread all over the stage.

Planned Close-up Camera Coverage

What can be done with an adaptation was clearly demonstrated when Frederick Fenn and Richard Pryce's *'Op-O'-Me-Thumb* was tailored for television (January 19, 1944). The one-act play was given a complete going over for its television performance and as the result of careful planning and ample rehearsal, there was a camera prepared to take a close-up of every turn in the action of the play and of every essential bit of business. Cameramen were provided with shooting scripts which indicated the sequence of shots.

Establishing a Play's Mood

The mood of *'Op-O'-Me-Thumb* was established by the opening sequence, a shot of the outside of the window of a laundry. The camera was then panned to the door to show the firm name, and this shot was then dissolved into the interior scene. (See picture, page 28.)

Rated "Excellent"

Televiewers' "excellent" reactions to *'Op-O'-Me-Thumb* rewarded the cast and producer. On its repeat performance (February 13, 1944) the consensus of opinion was, "Saw this before; glad to see it the second time."

Try at Soap Opera

WRGB's experimental work in drama would not be complete without a try at soap opera. The result was anything but favorable but it must be admitted that the television serial did not receive the full technical treatment accorded other fiction material. Two episodes of *The Martins* were telecast. The first episode was staged as if for a radio broadcast with actors reading from script. The second episode was written, staged and directed as an incident in the lives of the Martins. The actors had memorized their lines and were rehearsed in stage business. This was an improvement over the first camera reporting method but was "still a soap opera."

Producing Television Dramas

From the experience gained and the work done in producing and televising one-act plays, original sketches and adaptations at WRGB, certain observations can be made and conclusions drawn. These include:

1. Source material for television plays.
   - **a.** One-act plays written for the theater will become popular television source material.
     - a-1. The play, in most cases, can be directed from the original manuscript with slight rewriting for television.
     - a-2. Many stage plays will undoubtedly be rewritten and adapted to take advantage of television's scope of action and pictorial possibilities.
   - **b.** Radio sketches will probably continue to be used for television.
     - b-1. The producer will have to employ every facility of slide and film sequence to bridge the many scene changes in the usual radio play for a smooth-flowing camera story.
     - b-2. More ingenuity and inventiveness will be required to adapt the radio play to television than to adapt the stage play.
   - **c.** Original dramas written by script writers experienced in the medium, will become television's main source for story material.
     - c-1. Specially written stories which are planned to utilize all the pictorial effects of the medium to develop scene sequence, should have a greater dramatic impact and should hold audience-interest more easily.
     - c-2. By knowing the medium through which the story is to be projected, the skilled playwright or script writer automatically uses the devices at hand to present and develop his characters and story to intrigue his audience.
   - **d.** Short stories and magazine fiction will undoubtedly be adapted for television.

d-1. Dorothy Parker's sketches, with their small casts and few stage sets, made sophisticated, adult television.

d-2. In the special television show based upon the *American Magazine,* Eric Hatch's story, *The Snazzy Pigeon,* was adapted with excellent camera results. (See Chapter XXII, *Special Feature Programs,* page 116, and picture of set in Chapter XXIX, page 164.)

2. Planning the drama for television presentation.

a. Television lends itself to unique picture sequences. Trick camera shots and special pictorial effects obtained by slides, film, drawings, and mixing of camera pictures, are possible with the flexible multi-channel control room equipment by utilizing several cameras. The producer should take advantage of these effects.

b. The producer should decide upon pictorial effects for titles, cast credits and scene or intermission transitions.

b-1. Titles and cast credits may be announced by individual slides which are hand-sketched and lettered, or drawings can be made and filmed and the film sequence televised.

b-2. Film sequences which set the mood or locale of the show can be used with the title slides, and can also be used for transitional effects. The film sequence of an onrushing train and the sound of a forlorn whistle effectively set the mood and locale for Dorothy Parker's *Here We Are.*

b-3. Drawings or symbolic props can be used as pictorial effects with opening and closing titles and credit slides and for transitional scene effects. The laundry window in *'Op-O'-Me-Thumb* and the flower in *Red Carnations* gave pictorial backgrounds for the opening slides of these plays.

c. The producer should consider if special film sequences should be shot for scenes difficult or impossible to reproduce in the limits of the studio.

c-1. Two special film sequences were shot for *The Sound Effects Man.*

c-2. Film sequences can be shot on 16 mm silent film and sound synchronized during performance or accompanying sound can be synchronized and recorded for telecasting.

d. The producer should consider the use of film sequences and stock shots for pictorial story effects.

d-1. Stock shots were used as a major story factor in the presentation of *The Strange Will of Charles Loundsberry.*

d-2. Film sequences of a plane gave movement and locale to *Death on Flight Forty.*

e. Establishing the mood and setting of the play in the opening shots heightens interest.

e-1. This can be accomplished by the use of slides and film, with music or voice-over, or by symbolic shots similar to the footstep sequence in *Two Crooks and a Lady.*

3. Planning camera shots.

a. The play's action should be planned and directed to allow for a maximum of close-up shots. The home audience wants to see performers and wants to see what they are doing.

a-1. *'Op-O'-Me-Thumb* was planned and directed for close-up camera coverage.

a-2. *The Waltz,* a monodrama, was covered by two cameras so that long shots, medium close-ups and close-ups could be obtained as story action dictated.

b. Camera shots must be planned to cover every bit of business and to advance the sequence continuity.

c. The close-up is one of television's ace cards and should be used wisely. Close-ups require planned camera movement so that cameras do not get tangled.

d. Camera shots should be plotted during preliminary and run-through rehearsals.

e. Camera sequences should be edited and established during camera rehearsals. Remember, there are no retakes possible in the instantaneous shooting of television shows.

4. Rehearsal time.

a. Adequate preparation and rehearsal time must include casting, line reading, rehearsals to set character and action, run-through rehearsals in the studio without cameras, and rehearsals with full camera and technical staffs.

b. It is estimated from available records that the following time segments are adequate for dramatic productions:

	Advance Preparation	*Rehearsal without Cameras*	*Camera Rehearsal*
Half-hour show	(brought to the studio by outside group)	3 hrs.	2 hrs.
Half-hour show	10 hrs.	5 hrs.	2 hrs.
Hour show	(brought to the studio by outside group)	5 hrs.	3 hrs.
Hour show	20 hrs.	10 hrs.	3 hrs.

b-1. Complex dramas with technical effects will require more preliminary and studio rehearsal time than straightforward action dramas.

b-2. *'Op-O'-Me-Thumb,* an hour presentation, was given 40 hours of rehearsal including reading, play rehearsal and two full-crew camera rehearsals.

b-3. The time the producer spends planning camera shots and direction will save rehearsal time and results in a better production.

5. Stage sets and playing areas. (See Chapter XXX, pages 159 to 168.)

a. Stage sets should be designed to reflect the mood of the play.

a-1. Most stage sets for dramatic plays should be realistic.

a-2. For Susan Glaspell's *Trifles,* a bleak New England sitting room with pot-bellied stove was used. For *Death on Flight Forty* (see picture page), an interior of a plane was built for the play's action.

b. Playing areas in the stage set or sets should be planned for camera coverage to allow close-up, medium and long shots of performers and business.

b-1. In *Trifles,* the play's action was planned to take place at the stove, at a table and near a rocking chair.

b-2. In *Flight Forty,* the play's action occurred at the rear of the plane, in the aisle near the woman and child, and in the forward part of the plane.

b-3. In Noel Coward's *Fumed Oak,* the Victorian living room was cut down in size for the television production, to force the stage-directed cast into close-playing action which can be covered by television cameras.

c. Television sets should be designed to force performers into close-playing positions.

6. Acting technique. (See Chapter XXXII, *Acting Technique for Television.*)

a. Actors must become familiar with the intimate, close-playing technique of television.

b. The broad gestures and voice projection of the stage must be toned down to the intimacy of the living room.

c. The microphone (which hangs overhead and is moved about by a boom man) picks up "normal" speech tones. The microphone level is set usually for the "middle" voice of the cast, and is varied up and down for the other members.

7. Costumes and make-up. (See Chapter XXXI, *Make-Up and Costumes.*)

a. Costumes and make-up must ultimately receive a great deal of attention by television producers, make-up artists, and costume designers.

b. Costumes that melt into the background (same gray scale value as background) kill story interest. Costumes that stand out very sharply like a white dress in a group picture against a dark background steal eye-interest from the story action.

c. Make-up should make girls attractive looking on the home receiver. Most men acting in plays should use make-up, especially to strengthen a jaw or to get a better skin tone sympathetic to the television camera.

8. Repeat performances.

a. The WRGB set owners, who surveys show

plan their television viewing (see Chapter XXXIV, *Audience Surveys*), have enjoyed repeat performances of dramatic telecasts.

a-1. *The Valiant* was rated "excellent" on both performances.

a-2. *Meet the Missus* was enjoyed more on its repeat performance than on its original presentation, judging by weekly rating reports sent in by set owners.

a-3. Reports show that some of the audience for repeat telecasts are new and some saw the show on its original presentation.

a-4. The audience seeing the show for the second time has enjoyed the repeat performance. For *'Op-O'-Me-Thumb,* repeat viewers said: "Glad to see it a second time."

b. Some one-act plays will be performed at not-too-frequent intervals by the station's drama group and by visiting drama groups. These perennial favorites will always find an audience.

9. Professional Performers, Road Companies and Amateur Groups.

a. Experienced television performers invariably give a better performance than stars and feature players of the stage, radio or motion pictures.

a-1. In Arthur Hopkins's *Moonshine,* the repeat performance with a professional cast was enjoyed by the television audience whereas the original performance with an amateur group had been rated "poor."

b. Versatile actors of the stage, radio and motion pictures can usually be directed for television camera performance in a minimum of rehearsal time. The leads in *Death on Flight Forty* and in *Meet Miss Subways* were from the stage.

c. Professional performers are to be desired over any skilled amateur group.

d. Amateur groups will always want to present school, college or Little Theater plays.

d-1. Television should open its studios to Little Theater groups, both as a community service and as a source for new acting talent.

d-2. School and college drama groups, where young performers are developed, should be encouraged by television stations, by assigning them air time for their yearly plays.

d-3. Plays are regularly brought to Schenectady, for production over WRGB by the Russell Sage College of Troy, the Yale Drama Department, and the Feagin School of Dramatic Art of New York City .

d-4. Many colleges will undoubtedly have television departments. Yale University, School of Fine Arts, is offering a television course. (See *Where There's a Will* by Miriam Tulin, page 31.)

e. Road companies may become television regulars, playing independent station circuits from coast to coast.

e-1. The necessity of long rehearsal time, and the cost of cast and stage sets may make television road companies an economic step.

e-2. The Television Workshop regularly sends plays and players to Schenectady for repeat performances over WRGB of plays originally presented over WABD, New York City. (See *Crime in the Clubhouse* and *Eighth Step,* page 30.)

Television As a Dramatic Medium

Television gives space and movement to a story. It can project mental conflict and show its devastating effect. It can bring charming people into a living room without overstaying its welcome and it can realistically present spine-chillers. Television will become an important entertainment medium, attracting its share of the public's time.

VII

Music—with Emphasis on Light Opera

IN CONSIDERING music for television, the first thought is of the symphony orchestra or the dance band. Then we think of the soloist, both vocal and instrumental, the musical extravaganza, the operetta and even the opera itself. Of all these programs, the operetta has been produced most effectively, both technically and artistically, at Schenectady.

This chapter will be devoted to a discussion of the light opera in television, with a note or two on grand opera. The two succeeding chapters will be reserved for a discussion of the soloist, ensemble, dance band and symphony orchestra, their virtues and shortcomings for television. The musical extravaganza has not yet received sufficient television attention to appraise it fairly as suitable material.

Light opera will probably be popular on television, its infectious music, gay plots and picturesque costumes appealing alike to the popular and serious-minded music fans. These qualities, without cluttering the scenes with large choruses, can be projected to the home receiver without losing charm or interest. At Schenectady, Gilbert and Sullivan is a special favorite.

Operettas Rated "Excellent"

Of the 11 light operas presented over WRGB during the past five years, the home audience rated three of them as "excellent," seven as "better than good" and only one as "fair."

The three light operas which were rated "excellent" are: Gilbert and Sullivan's *The Pirates of Penzance* and *Trial By Jury,* and Julius Eichberg's *The Doctor of Alcantara.*

Handling a Large Chorus

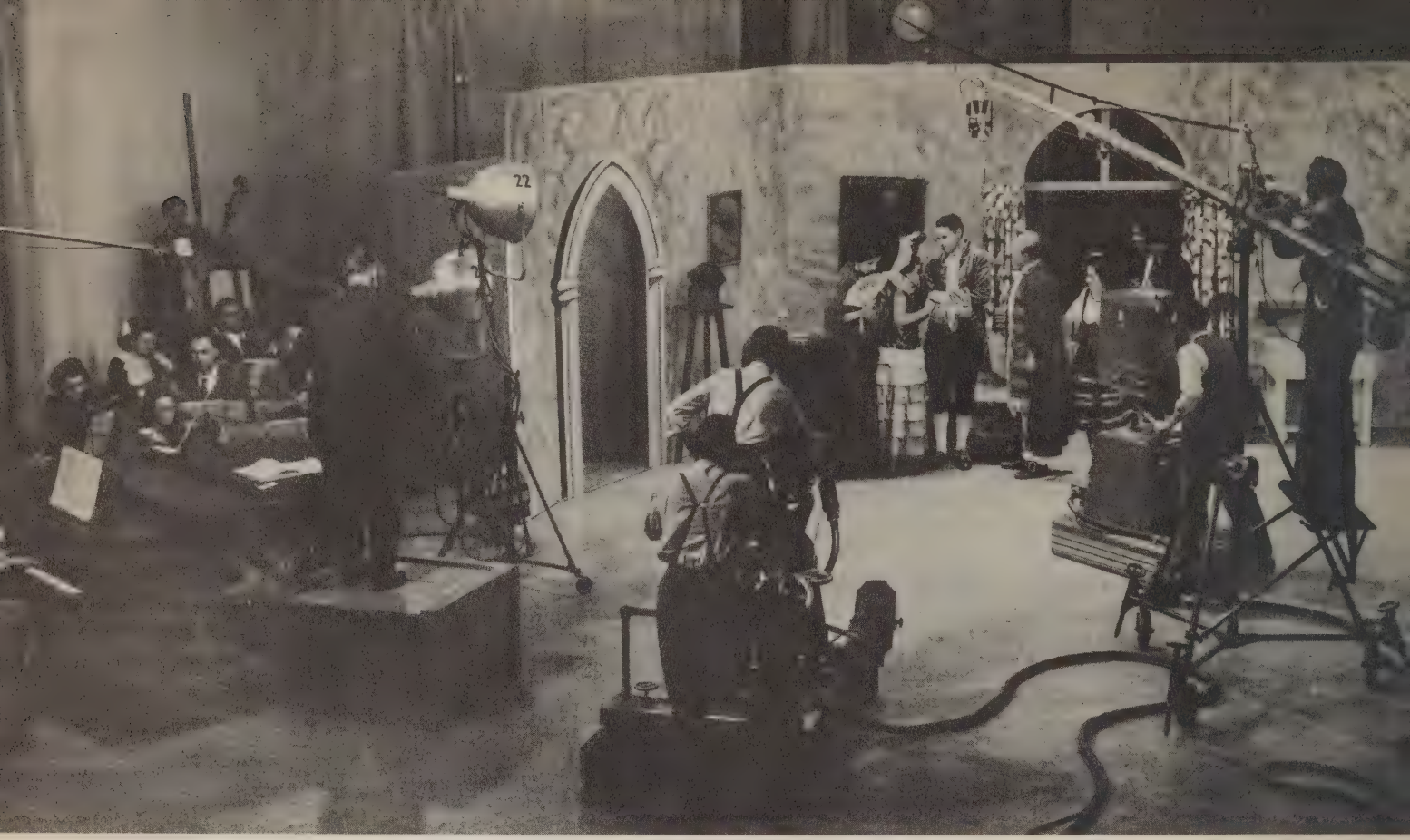
The Pirates of Penzance (May 16, 1942) was the second full-length musical (a two-hour performance) televised at WRGB. It was presented by the Operatic Society of New York State College for Teachers, a well-directed music group. The large chorus was divided into two groups—one half on camera, the other half off-stage, thus achieving a musical fullness without cluttering the television screen with more people than the camera could hold.

Rehearsals and Repeat Performances

Trial by Jury, acclaimed on both original and repeated performances, was presented by the WRGB Light Opera Company (April 4, 1944). Having the group under station supervision insures sufficient rehearsal before a performance and the rating (televiewers' opinion) bears out the value of the extra work put into rehearsals—in this case a total of 15 hours including 4 hours of camera rehearsal. The chorus of high school students was rehearsed and directed by the public school music supervisor. The WRGB musical producer coached the principals and set the action. *Trial By Jury* is a television natural with its one tight act (40 minutes). The success of the second performance (April 28, 1944) indicates that television will have an audience for repeated shows. Unlike radio, a new program may not have to be worked up for every period of scheduled television time but like motion pictures, feature programs can be given repeated performances.

Staged and Directed for Close-Ups

Julius Eichberg's *The Doctor of Alcantara,* produced by WRGB's musical specialist Robert B. Stone, received an "excellent" from televiewers on its repeated performance (Oct. 17, 1942). Its premiere (Oct. 10, 1944) was rated "better than good." Stone discovered the Eichberg score gathering dust in the station's files. He personally orchestrated the light opera and copied all the parts from tenor lead



HOW the orchestra and principals of a light opera can be handled for television is demonstrated in the above picture taken during the televising of *The Doctor of Alcantara* at WRGB. The orchestra is off set (not part of the television picture). The camera set-up for long shots and close-ups and the two microphones (one for orchestra and one for performers) are clearly seen. Below is seen the type of choral line-up used when *The Mocking Bird* was produced. It is effective for camera work—long shots, close-ups and panning—while a number is being sung by principals and ensemble.

to chorus routines. Stone staged and directed the operetta for the television camera, so that principals could be held on close-ups for their solos. It was the maiden effort of the newly-formed WRGB Light Opera Group which has become a station stand-by. *The Doctor of Alcantara,* a full length musical (an hour and a half), had over 30 hours of preliminary rehearsal. In order not to dissipate the talent and effort in one performance, it was repeated a week later, with increasing success.

Chorus Handled Off-Camera

The first full-length musical attempted at WRGB, Gilbert and Sullivan's *Iolanthe* (Jan. 23, 1942) with the Schenectady Light Opera Company, was presented with only the principals on camera. The chorus sang off-stage.

Three sets were used for *Iolanthe*—a library set for the introduction, a woodland dell and the front of the House of Lords for Acts I and II. Intermission and Act II title slides, backed by music, served to cover the break between acts while the sets were changed.

Value of Rehearsals

More than eight hours were devoted to technical and dress rehearsals for *Iolanthe.* The hour and a half performance showed that adequate rehearsals do make better productions. Performance and technical operation went smoothly. The cameras covered every piece of business and held close-ups of every solo and duet.

Here are some of the audience's comments: "Thoroughly enjoyable; singing good." "Two G & S fans enjoyed it." "Good camera work; more interesting than a variety program." Another televiewer had the same idea: "Like light opera more than variety shows."

Other Gilbert and Sullivan Works

Other Gilbert and Sullivan operettas which were camera reported by WRGB, that is, were rehearsed to get the best camera coverage possible of the stage directed production, included:

The Gondoliers, a two-hour presentation (April 28, 1943) by the New York State College for Teachers, and *The Mikado,* a two-hour presentation (May 4, 1944) by the Alba'Del Light Opera Company.

Need for Subtle Make-Up

The Mikado definitely showed the need of subtle television make-up. The heavy eyebrows and oriental features, obtained by broad strokes for the stage, are grotesque on camera. Television demands a natural-appearing make-up because the camera close-up is very revealing.

Well-Planned Stage Sets

Oscar Straus's *A Waltz Dream* was put before the television cameras (November 11, 1942) with the Schenectady Light Opera Company. As in the production of *The Pirates of Penzance,* the chorus was again handled in two groups—one half on camera, the other group off-stage on a separate microphone, mixing the two for full vocal quality. Three stage sets were required for *A Waltz Dream* which ran approximately two hours. To cut intermission time, the two large sets, an interior and an exterior, were erected and ready for scene change. Here is where the WRGB studio showed the importance of its size, having space for the two stage sets, room for free camera movement, the large chorus and orchestra, as well as space for a guest audience. Five studio rehearsals, two with camera, assured a smooth technical production. (See picture, page 164.)

Use of Chorus at Intermissions

In *The Mocking Bird,* A. Baldwin Sloane's long three act work (two hours and 25 minutes), the chorus was used to cut down the intermission waits. Half of the chorus was costumed for one scene, half for the other scenes so that the on-camera group did not require costume changes. Only the principals needed to change costumes. Thus, the otherwise long intermissions were cut down by having a revolving chorus, one-half of which was always ready to be on camera. There wasn't sufficient studio rehearsal of the operetta with the Alba'Del Light Opera Company from Albany, N. Y. to streamline the long work for television but the camera reporting of the performance was sufficiently effective to rate a "better than good" from the television audience.

Directed for Television

It is important that operettas be planned and rehearsed for television. The directors of the Julius

Hartt Musical Foundation of Hartford, Conn., appreciate the staging of their student works for this medium. When the group did Offenbach's *A Marriage by Lantern Light* (June 18, 1943) the 40-minute performance was professional in every detail. It was musically directed by Moshe Paranov, director of the school and also musical director of WTIC at Hartford. It was vocally directed by Friedrich Schorr, of the Metropolitan Opera Co. and the Julius Hartt Musical Foundation, and it was dramatically directed by Dr. Elemer Nagy, stage director. The WRGB producer had the comparatively easy task of setting camera takes without the need of suggesting close-playing action.

Two Pianos Instead of Orchestra

The directors at Julius Hartt specialize in close grouping with television in mind. This direction was effectively demonstrated in the Foundation's presentation of *The Frantic Physician,* the Moliere-Gounod stylized comedy (May 16, 1944). For its hour and a half performance over WRGB, the cast had two hours of preliminary rehearsal to set camera takes and three hours of camera rehearsal. This did not include the rehearsals at the Foundation. No chorus or orchestra was used. A two-piano combination furnished the off-stage music, picked up by a separate microphone.

Two-Character Operetta

The one operetta which was rated "fair" by the television audience was W. B. Wekerlin's *The Milkmaid of Trianon* (March 31, 1944), a two-character countess-in-disguise and suitor episode. Both roles were sung by girls, voice pupils of Oscar Seagle. The half-hour performance lacked vitality and appeal because of the thinness of plot, the lack of action and the fact that the whole operetta was carried by two girls. The production was adequate.

Pointers on Televising Light Opera

Here are some conclusions about light opera on television, based upon the experience gained at WRGB:

1. Light opera is admirably suited for television. Gilbert and Sullivan and many neglected works of Offenbach and our own Victor Herbert lend themselves to the close-playing action necessary for the small-screen receiver.

2. The gaiety, lilting music and charm of the operetta can be projected by television to the home.

3. The producer and musical director should plan and rehearse every song, bit of business and action so that the full flavor of the operetta is captured by the cameras.

4. The operetta should be directed specifically for close-group playing, always with the limitations of television in mind.

5. The cast should be thoroughly rehearsed both musically and for camera action. The score must be learned; the music routine set; the action directed so that every piece of business is timed for the camera.

6. Rehearsal time depends upon the length of the light opera. With a reasonably talented cast, 20 hours of preliminary rehearsal (including music rehearsals with chorus and principals) and three hours of camera work should be satisfactory for an operetta which lasts about an hour.

7. The chorus can be handled effectively in two groups—one group on camera as required, the other group in close proximity off stage. This achieves musical fullness without cluttering up the receiver screen with people. The chorus also can be used to cut down intermission waits. Costume half the chorus for one act and half for another act and use the right one on camera. While the principals are changing costumes, an introductory dance or musical sequence can open the second scene.

8. Large orchestras are desirable but not necessary for light opera television performances. Small orchestral groups and even two pianos have given sufficient musical volume to support the chorus and cast.

9. Musical groups should be impressed with the need of rehearsals, rehearsals in music routine, dramatic routine and stage action. Many

stations, like WRGB, will depend upon outside groups for musical shows.

10. Light operas should be adapted for television and the score should be edited for visual presentation on the home receiver. Orchestration and scoring for television require a skilled musician who knows television techniques or someone trained in television who can supervise such musical re-writing.

11. Ingenious use of the full control room camera channels for special effects, for title slide and cast credit introduction and for unusual camera shots, marks the producer as an artist skilled in television production.

12. Intermissions are a moot question. In televising the operetta at WRGB, the stage technique of the intermission was adopted. Costume changes and set changes sometimes demand intermissions. This can be overcome by properly re-written scores but the need to consider and provide an audience stretch period might dictate the wisdom of providing intermission breaks in long productions. The intermission can be covered simply by televising a slide "Five-Minute Intermission," backed by music. More trick and ingenious methods can be devised, for example, having a harpist play with the intermission slide dissolved in over the artist.

13. Stage sets, costumes and make-up must project the mood of the operetta. Sets should not be "too busy" but should be characteristic of the period of the play. The usually colorful costumes of operettas should be carefully chosen so that they do not fade into the background of the set when resolved into shades of gray on the television receiver. Character make-up must be subtle.

14. Light operas, being major television productions, may be successfully repeated. In the two instances when *Trial By Jury* and *The Doctor of Alcantara* were repeated, the second performance was as enthusiastically received by televiewers (in part a new audience) as was the "opening night." How often a production can be repeated and in what sequence of time, the next day or the next week, depends upon the size of the audience, the number of television stations in the area and other factors undetermined at this time.

Televising Grand Opera

Based on the success of the Julius Hartt Musical Foundation presentation of Humperdinck's *Hansel and Gretel* (December 23, 1943), the first full length operatic production in the history of television, it seems safe to predict that television will some day bring Metropolitan performances to the farmhouse in Kansas.

The only other serious opera televised at WRGB was a tabloid concert version of Tchaikowsky's *Pique Dame* (*The Queen of Spades*) by Pauline Achmatova, the "Russian Nightingale," with her Opera Company (August 26, 1943).

Well Rehearsed Cast

The *Hansel and Gretel* production went very smoothly because the musical and stage routines were drilled into the cast by music director Moshe Paranov, singing director Friedrich Schorr and dramatic director Dr. Elemer Nagy of the Julius Hartt Musical Foundation.

The hour and a half television performance of *Hansel and Gretel* was put on with only a few brief cuts in the original score. Even the studio sets were built to approximate as nearly as possible those used in the theater performance at Hartford, Conn. The cast arrived in Schenectady the evening before the performance, giving the producer a full day to work with the group. The cast went through two complete rehearsals on the day of the performance, the first for a musical brush-up and to enable the producer to plot camera shots; the second to determine the practicability of the shots.

But things will go wrong. Four tree flats and a box of props failed to arrive. Fast work by the staff produced substitute props and a half dozen Christmas trees made an excellent forest set. The trees required wooden stands so while Act I was actually on the air, the set for Act II was still under construction. It was finished on time and garnished with artificial grass obtained from a local mortician to produce the necessary sylvan effect.

The role of Peter, the father, was sung by Hugh

Thompson, winner of the 1944 Metropolitan Auditions of the Air.

Audience Reaction

The television presentations of serious opera provoked the same divided opinion that generally exists about this classic field of music. Many liked both *Pique Dame* and *Hansel and Gretel;* others wrote in that "this type of program is no more entertaining than broadcast of opera." *Hansel and Gretel,* for the most part, was enthusiastically enjoyed, the consensus of televiewers' opinion being "better than good."

Further Experience Required

Serious opera requires much more experimental television work before any definite techniques can be established or conclusions can be drawn.

VIII

Music—The Soloist and Small Ensemble

TELEVISION does need a program cushion and from the Schenectady experience it appears that the singer or the instrumentalist is elected to fill the odd 15-minute spots. It's easy to put the inevitable soprano in the well of a piano, place a camera in front of her and a microphone over her head. However, given a production, the song spot can be made interesting, and the instrumentalist may get a better break in television than he does now in radio, finding in television a counterpart of the concert stage.

Test Series of Musical Programs

An interesting experiment was conducted at WRGB during December 1943 and January 1944. A series of half-hour musical programs were offered —a two-piano recital, a home sing, a harp-and-poetry spot and excerpts from light opera with singers in costume. A study of audience reaction indicated that the two-piano recital and the harp-and-poetry were enjoyed most. A further study showed that planning was put into the well-received productions and little thought was spent on the others.

Staging Two-Piano Recitals

The piano duo, Carter & Bowie, are New York professionals who appeared in *Hellzapoppin*. The grand pianos were lined up so that the keyboards touched and the players could see each other through the raised tops. This afforded an excellent opportunity for a variety of interesting shots, getting one or the other pianist in foreground focus and the other held in the picture background. Highspot of the program was Carter and Bowie playing their own arrangement of *Rhapsody in Blue*.

Another experiment tried on this program was announcing all the music titles at the beginning, a policy which televiewers thought very good. Carter and Bowie were rated "excellent."

Lack of Visual Interest

The second experimental music spot, a home sing (December 22, 1943), invited the home audience to join in singing Christmas carols sung in the studio by four members of the WRGB Light Opera Co., with piano accompaniment. As no new visual interest was added to the program it became a bit monotonous. Mood film shots or slides or staging the quartet in a Christmas setting would have helped to sustain interest.

Effective Staging and Production

When Madeline Herzog, harpist, was televised, the producer gave considerable thought to staging the program and planning camera takes. The stage set, a combination of flats and drapes, gave the effect of a concert stage. A camera was located in back of one of the side flats and a "porthole" cut in the flat so that camera takes of the harpist could be obtained from that angle. The porthole was so located as to be out of the field of the second camera which covered the scene from the front obtaining long shots of Miss Herzog at her harp. Close-ups of the harpist's hands moving gracefully over the strings were especially effective. Off-camera, an announcer read poetry at a table microphone while the harpist was playing. (The sound of the harp was picked up by a boom microphone.) This program was especially enjoyed by the home audience.

The fourth music spot, a scene from Straus's *A Waltz Dream* (January 3, 1944), was a last minute feature and showed a warmed over quality in action and singing, although the singers had performed in the original operetta production. The set used did not fit the scene, the lighting was very flat, and the camera work was poorly done. Televiewers rated the program "fair."

FACIAL expression is even more important to the singer in television than it is to the motion picture soloist. This is demonstrated by the above in-the-studio and off-the-monitor pictures of Marie Rogndahl, winner of the 1944 *Hour of Charm* radio contest. The television singer must look beautiful.

A TYPICAL cocktail combo (unit act) is so placed that cameras can be dollied in for close-ups of each musician as well as being able to cover the group on long shots. ▼

The Vocalist

No attempt will be made to discuss individually the more than 70 vocal programs produced at WRGB. Rather, in this instance, only telecasts that point up technical and artistic techniques will be highlighted.

Dissolving Words Over Singers

In the first community sing telecast (December 26, 1941) featuring a mixed quartet from the First Reformed Church, the words of the songs were superimposed over the image of the singers to encourage audience participation. This was tried again (Sept. 16, 1942) with a group of young couples sitting around a living room interior set, an attempt to capture the informal atmosphere of a musical evening at home. Televiewers rated this as "fair to good."

When the same idea was staged with a theme, as "Songs of the Nineties," home viewers were enthusiastic in their enjoyment. The home sing was staged as an old family album come to life. A shot of the book, "Beautiful Gems of Thought and Sentiment," set the theme with the performers in character stepping from the album to sing such old favorites as *Take Back the Heart* and *After the Ball.*

Singers and Stage Presence

Singers must be rehearsed for stage presence. Too frequently they spoil a song by turning off camera when finished as if to suggest, "Well, that's over with." A producer should be acutely aware of where a singer is about to finish a song so that he has the transition, whether slide or announcer, ready to be cut in on split-second timing. This will make a smooth production and will add interest to the program.

Story Setting for Songs

Some singers have been schooled in the value of story setting. This is true of Eileen Borwell, South African vocalist and protégée of Richard Crooks. Miss Borwell, in her three appearances at Schenectady, wove customs of the Boers into a sketchy story as background for her South African folk songs. Special sets and a quartet added to the continuity as well as to the enjoyment of Miss Borwell's singing.

Camera Techniques

Opening on a close-up of a singer which is held through a long piano introduction, is poor practice. Both the singer and the audience are at a loss. A preferred technique is to open on both the pianist and accompanist with a slow dolly-in for a close-up on the singer when she is about to pick up the song. Opening upon the accompanist when a singer is introduced is also bad practice. A two-shot* to introduce both, then a pan* to the accompanist has continuity and is an interesting way to cover a long introduction, but a smooth transition to the singer must be effected.

Boom-up shots on vocalists are usually bad. They have a tendency to make singers look "squashed" (or foreshortened). A boom-up shot, technically speaking, is booming up the camera and shooting down at the performer. Two cameras will adequately cover a singing program, affording a good sequence of "takes."

Production Job and Audience Reaction

The personality of the vocalist, whether popular or concert artist, attracts viewer attention. The production job of the program should help hold attention but nothing can be done for a mediocre voice.

As has been stated in the opening of this chapter, too many sopranos are placed in front of a piano and told to sing. This is reflected in the home audience's rating of the 70 or more vocal programs telecast by WRGB. Only 24% were rated as "better than good." Most of the others were rated at "fair to good" or just "fair."

When Marie Rogndahl, winner of the 1944 *Hour of Charm* radio search for unknown talent, visited Schenectady, she was telecast over WRGB. The photographs on the opposite page show Miss Rogndahl being televised and her picture on the camera monitor showing what televiewers saw. They rated her as "better than good."

Professional Talent

There's no hiding talent from the television camera. Hertha Glaz, Metropolitan contralto, was especially adaptable to television. Professional "know

*A two-shot is a camera picture of two subjects held in close-up or long shot. In this case, a pan would mean moving the camera head in a horizontal plane to center and focus on the accompanist.

how" and superb singing combined to give the home audience a most enjoyable musical treat. (See Chapter XXIII, *Personalities,* page 119.)

The Instrumental Soloist

The instrumental soloist may be of more visual interest than the singer—seeing and hearing a pianist, harpist or marimba-xylophonist play holds televiewer attention. Of the 46 instrumental music spots offered, the home audience rated 37% of them as "better than good" and two programs as "excellent." Carter & Bowie, the piano duo in the first experimental music spot, mentioned on page 43 of this chapter, were rated "excellent." Henry Scott, mittens-on-the-keys boy wonder, was the other "excellent" program (May 10, 1944).

Scott, never serious for a moment, ran through an amazing repertoire of satirical studies. The camera caught and projected the full flavor of his facial and body expressions which added visual enjoyment to his piano work. In addition to his playing a fast number, and Nathaniel Dett's *Juba Dance* straight, Scott went into a selection during which he put on a pair of mittens. For a novelty climax, he performed *Chopin in the Citrus Belt,* accompanying the down beat with a grapefruit, an orange and a lemon for a fast finish. Scott, a topnotch professional, played to the camera with the result that both studio and home audiences rated him "excellent."

Adding Movement and Visual Effects

The first instrumental soloist televised at WRGB back in January 1942 was marked by a lack of variety of camera angles. At that time the staff was of the opinion that "fundamentally there is little one can do with the camera except show the artist and the keyboard." They now know how to add movement and visual effects to the instrumental spot by using camera dissolves and angle shots. Television coverage of the musician today has developed into top entertainment.

The harpist, particularly, can be televised most successfully. Careful camera attention and staging of the recital have added to the pictorial quality of the soloist and the instrument. Close-ups of fingers plucking strings are fascinating to those watching. Because television makes it possible for the audience to actually see the artist's hands, it holds a distinct advantage over the concert stage.

The Use of a Revolving Stage

One of the most successful harp recitals was staged on an ingenious revolving platform so that a variety of camera angles could be obtained. The platform, about six feet in diameter, was revolved by manpower. Two cameras were so placed that they could remain stationary and get shots at all angles as the harpist was turned on the platform. Two out-of-rhythm "shots" went on the air—one a diagonal take in which the soloist's hand came up into the foreground like a large flipper—the other a view of the harpist's back.

To add to the visual interest in televising a pianist, a long mirror was mounted on a piano just above the keyboard. The cameramen then were able to get shots of reflected playing hands at odd angles. The producer utilized the mirror for dissolves and fades and trick television effects. As always happens with anything new, it was overworked. Using the mirror sparingly to provide emphasis adds to the picture interest of a pianist playing a Debussy Nocturne or beating out the rhythm of *Saint Louis Blues.*

Other Recitals

Other instrumental recitals successfully televised included the violin (fingering and bowing make interesting pictorial composition), bagpipes, marimba-xylophone, organ and accordion. These instruments all have pictorial qualities that lend themselves readily to the television camera.

The Ensemble

The musicale or instrumental ensemble trio, string quartet, singer-piano-violin, etc., have not been too well televised at WRGB, probably because the programs were rarely staged for variety. These programs were usually impromptu, with or without camera rehearsals, and artists were given a minimum of instructions, the producer depending upon his own musical sense and technical knowledge to get through the show. The musicale should be planned so that the artists will know the program routine and the producer will have a camera sequence plotted before attempting to put the program on the air.

Vocal-Instrumental Group

The vocal-instrumental group lends itself to many music program themes—an all-Russian program, an all-Debussy recital, musical stories, hillbilly hi-de-ho and the ever-useful music shop. Film slides and biographical material were woven, for instance, into an hour program, *An Evening with Johann Sebastian Bach* (May 12, 1943) presented by the Monday Musical Club of Albany.

Televising Musical Programs

A review of tested television techniques for a soloist, either vocal or instrumental, includes a consideration of these factors:

1. The song and music program should be staged:
   - **a.** The stage set and the costume should be in mood with the music. For example: *Songs of the Nineties* and the South African Veldt setting for folk songs.
   - **b.** A harp recital with poetry is effective.
   - **c.** A revolving stage can be used.
   - **d.** A mirror mounted on the piano key-cover provides interesting camera shots.

2. Song and music titles may be announced:
   - **a.** By slides.
   - **b.** By an announcer.
   - **c.** By the artist.
   - **d.** At the beginning of the program with a summary at the end.
   - **e.** Before and after each number.

3. The artist should be rehearsed for:
   - **a.** Camera presence.
     - a-1. Uninitiated performers are stiff, scared or plain curious. These qualities are projected in the home set and mar the recital.
     - a-2. Artists should avoid moistening lips and should cultivate poise.
   - **b.** Smooth and climactic finish to a song.
     - b-1. The artist should hold camera pose until cut off the air.
     - b-2. A ragged end spoils an otherwise enjoyable song or piano piece.

4. The accompanist should be rehearsed for:
   - **a.** Cues to start playing, to avoid slow pick-ups which break the program rhythm.
   - **b.** Length of piano introductions to song.
     - b-1. The introduction should be cut to a few bars or should be covered by visual interest.
     - b-2. It is awkward to hold a singer on camera, waiting through a long introduction. The television watchers and singer are at a loss.

5. Rehearsals are required so that the producer can plan:
   - **a.** Continuity of shots.
     Sudden cuts from long shot to close-up or from front view to profile make a soloist seem to jump, sometimes giving the effect of a rubber face.
   - **b.** Composition of pictures.
     The artists should be directed for close grouping, for gestures, and for body movement.

6. The length of rehearsal time depends upon the length of the musical program and its format.
   - **a.** The 15-minute music spot, assuming that all preliminary preparations have been taken care of, will require a half-hour to three-quarters of an hour for a run through with or without cameras.
   - **b.** Recitals longer than 15 minutes or with visual effects should be planned and rehearsed with full camera crew. This usually requires an hour or more.

7. Camera coverage should be planned to build a picture sequence of the recital to a musical climax.
   - **a.** The opening shot depends upon the musical introduction.
     - a-1. This can be a long shot holding both singer and accompanist, with a slow dolly-in, centering on the singer.
     - a-2. If a slide is used to introduce the number, backed by the music introduction, the singer can be dissolved in through the title.

b. A close-up of the artist or artists should be included in the picture sequence as soon as possible. The home audience wants to see what the artist looks like.

c. The picture "take" sequences should be planned to have rhythm with the music. Cutting to a different view in the middle of a phrase is disconcerting.

d. The climax shots should have striking pictorial composition to give pictorial finish to the song.

e. Framing a group depends upon stage set-up and performer movements.

f. Instruments offer a variety of camera shots.
- f-1. Showing hands playing instrument.
- f-2. Dissolves from artist to instrument.
- f-3. Boom-up shots for angle pictures.

g. The cameramen must be careful to keep performers in focus. Singers have a tendency to weave; so have violinists.

h. Only qualified producers, that is, musically informed producers, should handle musical programs.

8. Costumes require attention.

a. Color should be considered.
- a-1. Performers' clothing should have enough picture (shades of gray) contrast so that they are easily seen.
- a-2. Costumes should never fade into the background. If they do, audience interest is lost.

b. Bright blouses and white shirts "bloom," that is contrast vividly with the background, and become centers of attraction. The eye is attracted to the blouse instead of to the artist.

9. Make-up should receive attention.

a. Women should be made glamorous (see Chapter XXXI on Make-up).

b. Some men need make-up. The producer should insist upon weak chins being made strong. He'll get better audience attention.

10. Stage sets should be planned for the performance.

a. For many recitals, a piano and draped curtain background are sufficient.

b. A staged recital requires an appropriate set.
- b-1. Singer stepping out of an album.
- b-2. French window opening upon a garden scene.

c. The background must never be "busy." Too much detail detracts from the picture and spoils the audience's enjoyment of the show.

d. Colors used for the stage set must be considered in relation to the artists' clothing and stage lighting. (See Chapter XXX on Color.)

11. Length of solo or small ensemble music spot.

a. The musical program should be fairly short, 10 to 15 minutes. In general there are not enough camera angles to maintain visual interest in a long recital.

b. A musicale can be stretched into a half-hour by adding visual effects—slides, film or stage-setting—to the program.

Television will find many program uses for the soloist and small ensemble. The producer must learn to present them for visual interest, even when used for fill-in program spots.

IX

Music—The Orchestra, Band, and Chorus

As was stated in Chapter VII, in thinking of music for television, people say, "Ah, now we can see as well as hear Toscanini conducting." That people want to see Toscanini or Stokowsky conducting the NBC Symphony Orchestra or Koussevitsky and the Boston Symphony is certain but how television will cover a concert lasting a full hour or more is a technique yet to be developed.

Interpreting Music With Drawings

One school of thought advocates the visual interpretation of music on a giant sketch pad by an artist to be interwoven with camera sequences of the brass, violin or cello sections. The conductor, as the central theme of the program, can be used to attract lookers in. Music lovers go to the concert hall to see the maestro and to hear the music. Television will allow the home audience to both see and to hear.

The artist sketching his interpretations of music gives "sight" to the classics whether played by orchestra or by phonograph records and this art "sight" has visual value. Jon Broc, studio artist, experimented in the interpretation of music through drawings (December 9, 1942). While recorded classics were being broadcast, Broc sketched before the camera visual patterns, inspired by the music. It was art interpretation of a mood rather than a definite story, somewhat along the Walt Disney *Fantasia* format, in still and not animated pictures. Broc had no preconceived notions. He, as well as televiewers, heard Debussy's *Clair de Lune;* then his gifted chalk moved with the mood of the music. Some of his sketches were fantastic, some purely abstract, some definite pictures. On three experimental art-interpretation-of-music programs, viewer reactions ranged from "Enjoyed music interpretations," "Work makes excellent television," "Would like to see more," to the frank, "Too intellectual for me, didn't savvy."

The Symphony Orchestra

Televising an orchestral half-hour program by camera sequences of the men and conductor isn't the right answer for television. After shooting the conductor and interrelating the sections of the orchestra, concentrating on unique side men, it was found that visual attention wandered half-way through a concert. The producer found he was repeating "shots" with each number. However, Schenectady experience has little to pass on in definite television techniques for visually presenting the symphony orchestra concert. It is a tremendous pictorial job.

The Dance Band

Televising a dance band where the individual players add to the sum total of the band's personality, is a simpler job than televising a symphony orchestra. It is fun to watch the sweet or swing band in action and this does not detract from the enjoyment of the music. Bobby-sockers will probably crowd around the living room television set for a close-up of Benny Goodman or Charley Spivak as they now crowd around the bandstand watching the players. It is fascinating to watch the gyrations of the drummer or the hot lick playing of a favorite trumpeter, and the television camera is uniquely adapted to project just this. But, for how long a period at a time this technique will interest viewers is open to question. Is it good for a half hour? Surely not for a whole evening as radio broadcasts dance bands throughout the night hours.

Camera Techniques

Camera sequences must establish the size of a group rather quickly after the opening shot. The

opening shot is usually a close-up of the band leader, the drumhead or of a few members. People must be kept informed and introduced to the group. It is also important to have close-ups of the soloist and sections at the precise moment the soloist or section picks up the music. Nothing is more disconcerting and interest killing than to have a camera search around looking for the soloist and finally come in with a close-up after the artist is in the middle of his part. The fact that bands have not been used too effectively in motion pictures is one indication of the job that faces the producer when planning camera coverage of a musical group for television.

The Chorus

The choir, glee club, and large chorus require a camera technique somewhat similar to the band. Let the television audience see the group. The stage set, arrangement of people, and costumes should all be in harmony with the music as these elements project the visual mood of the program.

Here again planning the camera takes with run-through rehearsal or thoroughly rehearsing the group with technical crew will insure a finished performance. Impromptu producing of a choral group is rarely good television. Transitions between songs, dissolves to sections and individuals, must flow smoothly. Control room editing (when a show is on the air) cannot help but be ragged—the editing should be done in rehearsal or at least when planning the program routine.

Panning along a line is an excellent way of covering a group. This introduces individuals to the home audience and gives movement to an otherwise static show. In panning shots, the cameraman must be alert in framing the picture to achieve good composition. For instance, if he is panning along the front row of a choir, it is disconcerting to see a line of wagging jaw bones topping the picture.

Choirs and glee clubs, like soloists, should not be held on camera through a long musical introduction. The singers get fidgety, spoiling the effect of the music. Either cut the introduction or use a long shot opening with a slow dolly-in, giving movement to cover the music.

Televising Record Playing

Television would not be happy without trying to inject picture qualities into phonograph record playing. In the one experimental program tried (February 19, 1942), the central theme revolved around the music box. A Swiss music box, a Stella punched-hole disc, an old Edison cylindrical machine and a modern radio-phonograph were used as visual effects. The television audience could watch the announcer insert both the old style and new style records, and hear the recordings. The program lacked television presence and showed lack of planning and rehearsal. The basic idea though might be worked up into a visual format.

It might be said that the artist, drawing visual interpretations of musical selections, is another way of presenting phonograph records on television. Whether *I'll Be Seeing You* and *Swinging on a Star* will inspire an artist and whether the jump rhythm of *G.I. Jive* can be translated into drawing form is a question still unanswered.

Televising the Orchestra and Band

Here are a few major precepts that ought to be observed in televising a chorus, choir, glee club or dance band:

1. Set the action and position of the group:
   - **a.** To keep it in the camera field. (Groups tend to get out of the camera field by shifting positions.)
   - **b.** For picture composition that is pleasing and attention-holding.
   - **c.** For close-ups of soloists or band members (cameras must be moved in for close-ups).

2. Set the routine of the program and rehearse the group for:
   - **a.** Music cuing (transitions from soloist to group or transitions between numbers).
   - **b.** Timing of business for camera takes.
   - **c.** Holding of performers' positions at music's end so as to avoid bad composition. (Artists have a tendency to turn off camera. Producer must be ready to cut to a transition effect at split second timing.)
   - **d.** Plotting camera sequences.
   - **e.** Plotting variety of camera shots, especially on bands to get musician playing instrument, to establish artist and instrument, to utilize full dissolves and trick shots pos-

sible with flexible television channels. On choristers, to establish size of group, to get close-ups of soloists, of voice sections.

f. Timing the show.

3. The length of an orchestral, band or choral program depends upon personalities and musical selections. In general, these time-segments have been found acceptable:

a. For straight productions, 15 minutes at most.

b. For staged performances with a theme format, perhaps one-half hour.

c. For a symphony concert, one-half to one hour, perhaps longer.

4. Stage the group for visual effectiveness:

a. Costumes and stage set backgrounds add to the visual interest.

a-1. A glee club singing college songs is not as interesting as the same glee club, dressed as football players and singing only football songs woven together with a visual (properties, slides or film) story angle.

a-2. The band distinctively dressed and given a stage setting adds to the picture continuity.

b. Choirs automatically project a church atmosphere in their robes. If possible try to prevent the group from wearing gleaming white surplices over black robes. White reflects light.

5. Song and music titles may be announced:

a. By slides.

b. By announcer.

c. At beginning and end of program.

d. Before and after each number.

6. Sound, which is picked up and broadcast in the same manner as regular FM radio, is covered by:

a. A boom microphone or perhaps two or three. (Sound pick-up from an orchestra or chorus must be balanced exactly as in radio.)

b. A floor microphone which is so placed to be kept out of the picture.

c. A table microphone for an announcer if he is not to be seen.

Visual-Interest Value of the Chorus and the Band

It must be remembered that television will be seen in the home on a small screen receiver or on a projection (18 by 24 inches) screen. Pictures must not be crowded with people or detail. Establish a large group but use individual or two-shots or a few members on medium long shots to progress the program in picture sequence.

Group singing or a band playing has always attracted an audience. Television can attract that audience by giving the chorus and the orchestra visual quality.

▲ THE slow movement of most of the Oriental and the Far Eastern dances is ideally suited to television. These dances are usually performed in a limited floor space.

▲ IN group dancing, cameras should be able to hold couples in two-shots for dance details. Long shots establish the group and the dance routine.

THE television chorus line must necessarily be restricted to eight and be directed so that close-ups as well as long shots are possible at all times. A line dancing obliquely into the camera makes an effective television entrance. ▼

X

The Dance

Devotees of the dance seem to feel that it is ideal for television, but the experience at WRGB during the past several years does not bear this out. However, the 32 dance programs indicate that the dance can be made good television with a new choreography arranged to conform with the rules and regulations of the medium. Primarily, this means dances designed for close-space performance and restricted vertical movement with calculated action which projects the impression of fast-paced whirls in an ever widening circle without the dancers getting off set.

Television does open up a new stage for the dance but the average routine for night club or theater is rapid and covers too large a performance area. To televise such a dance requires expert cameramen who can pan smoothly and continuously while on the air and at the same time keep the dancer always in focus. When it comes to the ballet or group dance the problem of the small field of the camera lens is an extra hurdle.

Ballroom Dancing

When Marlow and Marlene, ballroom dancers, were televised at WRGB (Jan. 16, 1942), the program was an attempt to show the graceful movement and rhythm of the dance. It was found that the fast whirls and dips were hard to follow on close-ups. Consequently, the producer had to resort to many long shots to hold the full figures of the dancers. As a result much of the dance nuances were lost. Even with long shots, the dancers occasionally left the camera behind and a momentary shot of an empty floor went on the air.

The Ballet

The studio also had only moderate success in telecasting the first complete ballet adapted for television (December 2, 1942). *Ballet for Americans* in four scenes ran a little over a half hour with the result, according to televiewers, that it was "enjoyable" but critical viewers again pointed out the need for especially planned choreography for television.

Need for Special Choreography

This need for especially planned dance routines for television was again emphasized a year later when the ballet, *The Balletomaniac's Dream,* was televised (Nov. 12, 1943). The production was rehearsed for cameras but in performance the dancers did not stay confined to the chalk-marked floor space, covering so much territory that they were often out of camera reach. This experience showed the need for many camera rehearsals so that the cameramen will be as familiar with the routine as the dancers themselves. Thus the cameramen as well as the producer can anticipate the dancers' movements and be ready for camera takes.

Lighting Factors

Both lighting and stage sets are important factors in any television program but lighting is even more important for modeling, silhouetting and highlighting dancers. Spotlights were used on most of the dancers during *The Balletomaniac's Dream* but lightmen found it difficult to keep the floorlights focussed on the whirling figures. The problem of spotlighting dancers may be solved. Lightmen must be rehearsed and cued for every dance for good picture results to prevent light flares from getting into pictures when cameras are being panned rapidly to follow a dance—lightmen must be on their toes to avoid this.

Tap and Acrobatic Dancing

About one-third of the dance programs offered over the Schenectady station were rated as "good"

by televiewers. Tap, ballet, square dances and jitterbugging were particularly enjoyed but top preference went to two acrobatic dancers.

Acrobatic dancing can be televised effectively since the dancer's movements are usually spectacular and performed on the proverbial "dime." In fact a camera eye-view of an acrobatic dance is more revealing than a stage performance.

Television programming is show business and, therefore, the unexpected may happen as in the case of one eccentric dancer. The man, a former professional vaudevillian, looked very tired when he appeared at the studio the night of the show. Later it was discovered that he had practiced all day for the program. However, he went through a camera rehearsal with no apparent ill effects and when he started his number during the actual telecast he seemed to be in fine fettle and gave his eccentric dance all he had. Suddenly his dance became altogether too eccentric, and he lay writhing on the floor, a victim of a "charlie horse." A young soloist who was in the studio covered up the situation by singing, perhaps tactlessly, *The Kerry Dance.*

Costumes Add Visual Interest

The picturesque costumes worn for most dances, such as the colorful Spanish costumes for the rhumba or the conga, the Hawaiian grass skirts for the hula, native dress for folk dances and gay costumes for chorus routines, add to the visual interest of the performance.

The Pony Chorus

Recently in a specialty dance program, a pony chorus dressed in brief shorts and blouses went through their "Rockette" routine and presented an engaging floor show from the studio point of view. But the television camera with its intimate picture quality emphasized the girls' bare thighs in panning shots and gave the routine a burlesque flavor. This is a point producers must watch for in telecasting dance programs.

Dances Suitable for Television

Rhumbas, tap dancing and oriental dances are excellent for television, the dances of the East particularly, as much of the rhythm is expressed by hands and arms, allowing for close-up camera work. When Zara was televised (March 3, 1944), the audience rated her dance recital as "better than good."

Introducing the Ballet

An interesting technique to introduce the ballet line was used by the producer with the Peggy Stokes Dancers (June 1, 1944). The ballet made an effective, oblique entrance, each dancer coming into camera for a momentary close-up, then whirling off-camera, allowing the televiewer to see the line coming into the picture.

Stage Sets

Stage settings for a television dance program can use a stylized background to give the effect of a Grecian garden, a simulated night club, or simple drapes. For ease of camera coverage the studio floor has been chalk-marked for the dancing area but artists invariably go off set. A low platform has been suggested as a possible solution to keep artists within prescribed areas but this may be dangerous even though the physical limitations may be more effective than the psychological limitations of a chalk-mark.

Choreography for Television

Each dance program telecast at WRGB has emphasized the need for a choreography especially designed for television. Basic television dance techniques should conform to these regulations:

1. The dance routine should be planned for performance in confined space, limiting even all sweeping horizontal movement.

2. The choreography of the ballet, folk dance or chorus routine should be designed for close-group action.

3. Theme interest in the ballet can be sustained by the premiere ballerina or by singling out specific couples for close-ups. Long shots of groups show the over-all effect of the dance but lose interest if held too long because of the inability of watchers to see details. This limitation of the long-shot must be considered and used in intriguing picture sequences with close-ups and medium close-ups of solo danc-

ers or individual line members to personalize the dance rhythm.

4. Vertical movement, such as tossing a partner into the air or jumping, cannot be covered adequately by the television camera without perfectly timed rehearsals and performers adhering to the routine established. What generally happens even in long shots is a momentary view of disembodied feet or torso until the dancer lands back into the picture. This adds an unintentional grotesque note to a difficult and probably well-executed step. The director of the dance must consider this restriction in conforming the art of the dance to television.

5. Solo dancers are easier for the camera to follow even with modified night club or stage routines. When they are trained with special television routines they should be definitely video appealing.

6. Costuming is important. Costumes should lend grace and beauty to the dance and should emphasize the Spanish or oriental flavor of the music. Costuming a chorus requires particular attention. What may look pleasing on the studio floor may be turned into burlesque by the intimate television camera picture.

7. Dance programs must be rehearsed before the cameras. The cameramen should know the routine as well as the artists so that they can anticipate the dancers' movements.

Television and the Dance

Television and the dance present a mutual challenge: The television producer must evolve a camera technique to catch all the nuances of choreographic movement; the dance finds its challenge in the limited field of the television camera. What is certain to evolve is a new dance form, one that is intimate, personalized and acceptable to all members of the family.

XI

Covering the News

A 1944 SURVEY of the Albany-Troy-Schenectady television set owners, to obtain their views and reactions to WRGB programs, showed that the majority preferred newsreels, on-the-spot events and map talks as a format for presenting the news. It was not surprising that map talks should place third as the newsreel (film) can include more dramatic on-the-spot action than can be injected into map talks, even during these news-hungry war years.

The survey indicated the active use of mobile television units in the years after the war. It further indicated the invaluable place of film in the reporting of local, national and international happenings for television.

The experience gained in ways and means of visually reporting the news at WRGB ranges from newsreels, maps and commentators to the use of graphs, tables, slides and miniatures. How ingeniously these visual effects are integrated makes a more interesting news presentation.

Special Newsreels

Special newsreels were made only on specific occasions for telecasting at Schenectady, because film is available only with high priorities during the war. These occasions included visits to WRGB by newspaper associations and by the Federal Communications Commission. The FCC members, including former chairman James Lawrence Fly, came to witness one of the first programs picked up by the General Electric relay station in the Helderbergs from NBC, New York, and re-televised by W2XB (Feb. 1, 1940). Motion pictures were taken of the event. The Schenectady audience was given a double thrill when the film was included on a regularly scheduled program four days later.

When newspaper features of the Albany *Times-Union* were "brought to life" (Nov. 5, 1943), a special newsreel of on-the-spot news—blood bank donors, Dewey greeting the WAC, and views of the model for the new Voorheesville depot—it was one of the most successful items on the hour program. The 16mm silent film was backed by recorded commentary timed and synchronized to fit each sequence.

Time Value of Newsreels

When the American Newspaper Association members visited WRGB (April 29, 1944), an announcer sitting at a microphone before a monitor where he could see the film as it was televised, reported and identified people on the newsreel. Motion picture sequences taken at the newspaper convention in New York, and taken during the arrival of the delegates in Schenectady and during their registration, just two hours prior to the telecast, were included in the newsreel.

The foregoing are a few examples of the possible use of film for news coverage by television.

Map Talks

During the war years, however, it is the commentator with his maps who has kept and is keeping television audiences informed on the progress of battle fronts by showing the geographical aspects of Pacific and European countries. War maps, minus confusing details, clearly show the relative position of America to the Philippines to Japan, for instance, and Saipan becomes more than a dot on an ocean. Even in postwar years, the map will hold visual attention when world events warrant its use.

War Map Details

The second news spot produced at the new WRGB studio (Dec. 26, 1941) was about Singapore, and was simple, involving little margin for error. A map was used to show the strategic position of Singapore,

but here again a lesson was learned. Less detail should be shown on maps and more attention should be given to shading land and sea areas for picture definition. The home audience, nevertheless, reported favorably on this program.

A weekly series of map talks was televised during the Spring and Summer of 1942, using maps made in the three to four size ratio of the television receiver screen so as to fill the camera field on close-up shots, and using three shades of gray in drawing the maps. It was learned that the pointer used by the commentator should be of contrasting color to the map so as to be clearly visible to the home audience. On some programs the commentator used chalk to circle places under discussion while on the air. These talks were well received, building up a growing audience. Televiewers felt that the analysis with the aid of maps was better than could be obtained from any radio analyst, and that this was a real contribution.

The maps used in the above mentioned series were all drawings, supplemented by slides made from "still" pictures of generals' and soldiers' action and, on occasion, by film sequences taken from actual War Department motion pictures or newsreels.

Use of Miniature Models

Complex news presentations require skill in execution or the result may be near fiasco. This practically happened when the staff at WRGB tried an ambitious analysis of *War in the Pacific* (Dec. 19, 1941), using a relief model of Pearl Harbor and its defenses. It was planned to use miniature ships and planes to point out the Japanese strategy of attack. The model ships and planes were operated by strings and this worked fairly well in rehearsal but during the telecast when the Jap planes were to be moved into the scene, the strings tangled. The result was chaos.

A relief map and model ships were again incorporated in an analysis, this time of the Gilbert Island attack (May 14, 1943). The ships were moved by magnets, and the result was pictorially effective.

Study of News Program Formats

In December of 1943, a study of four news formula programs was made to learn something about audience preference. The first was the tried and true war map; the second, a round table discussion; the third, a topographic relief map with scale models of men and tanks; and the fourth was "News with Pictures" (slides). Viewers preferred the two map talks.

When the topographic map was used, a relief model of Italy was made showing the terrain. The map was white, with mountains indicated by green (paper) grass. The huge map (3 by 5 feet) was laid out on the floor and as the commentator pointed out various spots the camera, boomed up and focused down, got a realistic shot.

"News with Pictures"

In later programs called the *News Desk,* cameras took the television audience into a city room as the news editor reviewed the press dispatches. Slides made from photographs were introduced to give visual impact to the analysis. This is a fairly effective method of handling the news and one which will find its place in television news reporting.

The *News Desk* technique can be used to cover local, national and war news. The commentator, sitting at his desk, can "read" the news, visually shown by film or slides. To add physical movement to the telecast, he can get up and go to a map to cover the war news. This informal "inside" view of news-in-the-reporting has an "immediacy" that is attention holding.

Round Table

The round table discussion of news was only partially successful because of several factors. The subject, *Inflation,* was sufficiently timely (December 22, 1943) to intrigue the home audience to look-in, but the chart showing the possible effects of inflation was too complex. Furthermore, the chart was hung on a flat which made it difficult to get close-up shots of every section clearly. It was decided from this experience that such a chart should be mounted on rollers or be movable in some manner for camera coverage, or, it might be advisable to break down a complex table into component parts, and have slides made of some portions so that they could be shown on the air while the experts discussed the points illustrated.

Another unsatisfactory feature of the *Inflation* round table discussion was the seating arrangement of the three experts, Professors Joseph Rotundo, Harold A. Larrabee and B. M. Wainger of the Union

College Faculty. In spite of the excellent discussion, it was sometimes difficult to know who was talking, because it was difficult to get close-up camera shots of each speaker and to get good long shots of the group. Camera coverage of a round table merits minute attention so that speakers can be identified at all times. The home audience should be able to see the group and also close-ups of the speakers. These points will be discussed in the succeeding chapter devoted to *Talks and Forums.*

Use of Visual Effects

Introducing the commentator with attention-getting visual effects is good audience psychology. When Dr. Burges Johnson of Union College became an armchair strategist on *Allied Attack on Japan,* the producer opened the telecast with a film sequence specially made, showing a revolving globe backed by an announcer's voice calling attention to the possible lines of attack on Japan as indicated in animated arrows shooting out of America, the South Pacific, and air bases in China and converging upon Tokyo which then burst into flames. The film sequence was dissolved into Dr. Johnson in the studio, standing before a map, holding a pointer on the Japanese capital.

The usual television introduction to a commentator or speaker is made by lettered slides, backed by mood music or by studio announcer's voice.

Combining Slides with Maps

When features of the New York *Herald Tribune* were televised (April 29, 1944), foreign news was covered on a battle-front pick-up technique similar to radio world news roundups. Naturally, television didn't go to London for a camera take of the paper's foreign correspondent but no doubt some day it will be able to do just that. A huge map showing practically the whole northern half of the Eastern hemisphere was wired with small electric lights indicating news headquarters at London, "somewhere in Italy," at Berne, Moscow, Ankara, Chungking and at important front line positions throughout the Pacific. The lights were so wired that all could be turned out, leaving a blinking light at the pick-up point announced. The camera shot focusing on this spot was dissolved into a slide made from a photograph of the "reporting" correspondent and held momentarily while he was introduced. Then the "correspondent" was dissolved into another map showing the battlefront under discussion. An actor off camera, impersonating the correspondent, reported the news contained in the dispatch. For further visual effect, appropriate film sequences (taken from war motion pictures or newsreels) were used to accompany the reports. This is a complex program job and requires much rehearsal for smooth execution of both technical and studio participation.

Program Value of News

Television news coverage will have to find its relative program value in the postwar years. Newsreels and "News Desk" reports will unquestionably be re-telecast at different times of the day, similar to radio's present-day practice of broadcasting the news periodically.

Producing News Programs

In summarizing the news program experiences at WRGB, attention is called to these points:

1. Methods of Covering News.
   - **a.** Newsreel (film of on-the-spot events). This will probably be a convenient as well as an effective means of reporting local and national news.
   - **b.** Mobile unit pick-up. This is probably the most dramatic method of covering news. Television capitalizes on the element of immediacy, of letting viewers see events taking place.
   - **c.** Commentator.
     - c-1. The producer must learn to "picture" the commentator's script—to utilize visual effects (models and/or slides) to give movement to the program.
     - c-2. The commentator should memorize his script or ad lib from notes. He can read the script when visual effects are on the air and only his voice is picked up.
   - **d.** Map talks, by announcer or commentator.
     - d-1. The map should be an outline drawing, showing only the main details of a situation.
     - d-2. A relief map, showing physical aspects of a country under discussion, is unusual and is visually effective.

d-3. The use of a pointer or chalk to visually indicate places under discussion helps viewers to follow the map talk.

d-4. Pictorial interest and movement can be achieved by supplementing the news by slides and film sequences, then cutting back to the commentator at the map for unity of theme.

e. News Desk.

e-1. Avoid the radio method of having a reporter read press bulletins.

e-2. Press bulletins should be supplemented by slides of still photographs and/or film sequences to illustrate the news.

e-3. Supplementing news bulletins read by a reporter with a map talk and/or slides and film is the most desirable formula for presenting the *News Desk*.

f. Round Table.

f-1. The speakers should be authorities.

f-2. Tables and graphs can be used to illustrate speakers' points.

f-3. Slides and film also can be used to illustrate points which speakers want to emphasize.

2. Attention-getting Visual Effects.

a. Scale models.

a-1. These are effective to show comparative sizes, to show outline and type of harbor, ship, plane or material.

a-2. Models can be animated but this requires a well executed plan of movement. It is better to do without animation than to attempt an effect which fails.

b. Animated film sequences and maps.

b-1. The film sequence of a revolving world, for instance, similar to the one used to introduce Dr. Johnson (page 58), can be contrived to attract viewer interest.

b-2. A map wired with lights, similar to the one used on the New York *Herald Tribune* program (page 58) should inspire other visual effects.

c. Slides and film sequences.

c-1. Slides (opaque, glass or film) of still photographs can be introduced into the program to illustrate news reports. Since most television stations will be equipped with a motion picture department, facilities to make these slides at a moment's notice should be available.

c-2. Wire photo services will supply television stations with pictures of people and places in the news. This service will supplement the press news services.

c-3. Film sequences can be obtained from a stock library which keeps film shots of people and places in the news. A shot of a previous year's flood scene can be used to illustrate a flood scene in the day's news.

3. Program Details to be Watched.

a. Maps should be clearly drawn for camera pick-up, showing only important features. Unnecessary details clutter up the home receiver screen.

b. Pointers used should be of contrasting gray scale value to show up clearly for picture definition.

c. Lecturer's chalk (large size stick), either white, medium gray or black, depending upon the map paper, will give clear line impressions. Lines drawn should be bold and sharp.

d. Tables and graphs, used so much in tax discussions, if over-large should be duplicated by supplementary sections which can be held on camera to show every item. Also slides might be made of the supplementary sections.

4. Rehearsal.

a. Complex programs must be rehearsed with technical staff, camera crew and studio for cues and timing to achieve a realistic news program.

b. All programs with special effects should have at least one camera run-through rehearsal.

c. Commentators and guests must be cued for pick-ups and sign-off for smooth operation, otherwise a note of uncertainty is injected into the program.

5. Stage Sets.
   a. For news programs, simple backgrounds are more effective than realistic sets since news itself is dramatic.
   b. For the "News Desk," a reporter's working desk, with papers and photographs scattered about, gives the reporter or commentator a chance to "read" script or notes without being obvious. This setting also gives an easy transition from his picking up a photograph to illustrate the news item and to the dissolving in of a slide to give the home audience a close-up view of the picture.
   c. Paneled flats, with a library effect, can be used to hang maps. The commentator can be seated at a desk for the opening shot or standing at the map. Desk and maps must be placed for best possible camera coverage.

The Television Newsroom

The television newsroom will be a combination of: 1) a newsreel assignment desk, 2) a mobile unit monitoring console for reporting on-the-spot pick-ups, 3) a newspaper editorial room, and 4) a broadcasting news studio. It is certain that television will revise news gathering techniques. Only through television can an entire nation see news being made.

XII

Staging Talks, Forums, and Round Tables

If the great demand on radio time for discussions, forums, round tables and interviews is any barometer, television will have to learn new techniques for staging these programs. On television, which adds sight to sound, such programs, unless staged, may be dull and uninteresting, resulting in turned off receivers or, what is worse to a program manager, receivers tuned to another station.

People want to see what public figures look like. Secondly, they want to hear how they speak and, if the program is interesting, perhaps listen to what they have to say. The producer, therefore, has a double job. Since the camera is candid and critical, he must present speakers to their best advantage, must rehearse them for camera presence. His second job is to give movement and visual effects to talks, interviews and forums, to plot camera takes for close-ups, for quick identification of each speaker on a forum or round table.

Talks on Television

Scripts or note outlines of talk programs must be planned for the medium. Even the President of the United States will some day write his speeches for television, using charts, maps and other pictorial material to visually punctuate his talk to hold viewer interest. Lesser public figures and officials must learn this too, to interest and hold a television audience.

Another important point: A speaker before the camera should memorize his talk or at least be able to speak from notes or from occasional references to script pages. The extemporaneous speaker will have an advantage. One of the most interesting informal chats was given by The Honorable Joseph Hanley, Lieutenant Governor of New York State, when he was a guest at Schenectady with the New York Publishers Association (Jan. 19, 1944). Urged to say a few words, Governor Hanley went up to a living room stage set, leaned an elbow on a prop fireplace mantel and launched into a brief talk about how a candidate would campaign using television. (See picture, page 62.)

This informal attitude is not always desirable—many speakers like to be seated. This gives a man confidence. He has a place to put his notes or script which he can refer to without being too obvious. The boom microphone overhead is kept out of the camera field, so the speaker can look into the camera before him; a second camera can cover him from the side taking profile shots, thus getting a variety of subject views. The manner in which the producer utilizes film or slides with these camera shots adds to the visual appeal of the talk.

When Lewis Haney, financial writer for King Features, gave a talk on the value of the dollar (Nov. 5, 1943), he used a stack of tin-foil covered wooden discs which showed up clearly on the receiver screen, to visually demonstrate his points. Seeing a $40 weekly salary melt away for rent, food, and dentist was quite dramatic.

The Illustrated Talk

The illustrated talk or interview will find a television audience. So many returning soldiers have a story to tell that the best visual way to help them tell it is by skits and slides and film. Words never quite convey the same effect as pictures. Sgt. Russell Royce in discussing the rehabilitation of a discharged soldier based on his own experience (*American Magazine* program, April 20, 1944) was helped by having a "reporter" interview him (see picture, page 62), and by having a sequence of battle film show what he had gone through. As he spoke about looking for work, the cameras moved to a United States Employment Service office studio stage set, where Royce re-enacted how he was directed to suitable work. Further, film of an industrial plant and assembly line showed the type of work he did.

▲ A HOME setting can often put a speaker at ease as it did in the case of the Honorable Joseph Hanley, Lieutenant Governor of New York State (seen above), when he spoke informally at WRGB.

▲ ANOTHER way to put a speaker at ease was accomplished with the informality of a park bench stage set, when a medically discharged soldier was interviewed about his readjustment problems.

A FORUM seating arrangement is clearly presented below, showing the wide V and the pulpit-like table provided for the moderator. Also seen is the way it is possible to cut to the announcer on the right and to the next feature (in this case an interview) at the left of the picture. ▼

Other talks or discussions may be illustrated by graphs and tables. Television will certainly help the income tax expert help John Q. Public fill out the necessary tax forms. On the occasion when an Albany official explained the Federal Tax (February 24, 1944), he was first interviewed at a table. Then he went to a blackboard on which the tax form had been drawn. The cameras dollied in for close-ups of the figures while the expert took a sample income and worked out the details right at the blackboard.

Photographs, 8 by 10 inches, can be used to illustrate talks, except that the 10 inches must be the horizontal measurement. This size photograph will fill the camera mosaic.* Duane Featherstonhaugh, in discussing *Voluntary Censorship* (February 20, 1942), used photographs of this size to point out damning details in supposedly innocent snapshots. Such photographs reproduce well through the television system.

The Television Interview

Discussions and interviews can be informal as when G-E's G. Emerson Markham interviewed Col. Hans C. Adamson (May 7, 1943). They were comfortably seated on a love seat in the library stage set with a huge map of the world covering the back wall. This gave Col. Adamson the opportunity to get up and point out places where he had been on Army assignment. The interview was completely ad lib and the cameras worked off-the-cuff.

Seating Arrangement and Camera Work

Planned interviews either from notes or script give the producer a chance to plot his camera takes and concentrate on added visual effects for picture sequence. During the New York *Herald Tribune* hour show (April 29, 1944), the paper's Carolyn Coggins interviewed George Hecht of Doubleday Doran bookstores about what the public was reading. It was found that better camera coverage was obtained by seating them at the small end of a library table, each straddling a corner leg. An opening long shot established the people, the books on the table and the bookcase. One camera shooting across the table for a close-up of Mrs. Coggins dollied back for a good two-shot. A second camera on the right of the table shot across for a close-up take of Mr. Hecht and the books he held in his hand. Slides were made of book jackets so that these could be shown viewers as the books were mentioned. The performers had memorized their interview and the program flowed interestingly.

*The mosaic is the plate in the camera tube on which the picture to be televised is focused.

Getting the Guests to Face the Camera

Occasionally it is difficult to get people in the news to face the cameras when being interviewed. A good way to force the guest to look toward the camera during an interview is for the interviewer to be off camera, standing or sitting in such a way that the speaker has to look into the lens to answer questions. This assures a producer of good full face views.

Sometimes a "camera" personality can hold viewer interest without prop visual effects. This was the case when Captain George H. Johnston, Australian newspaperman and war correspondent, was interviewed by Dr. Burges Johnson and Prof. Joseph Rotundo of the Union College faculty (Sept. 23, 1943). The timely interview was completely ad lib with Capt. Johnston answering questions about Australia, the progress of the war and how our American doughboy was getting along "down under." The seating arrangement for this interview was none too good, except for close-ups of Capt. Johnston. Prof. Rotundo was at one end of the oblong table, Dr. Johnson on the long side and Capt. Johnston straddled the right-end corner of the table. The interview had to be carried on long shots, close-ups of the Australian newspaperman, or two-shots of Dr. Johnson and Prof. Rotundo. Because of the seating arrangement it was impossible to get a two-shot of Capt. Johnston and Dr. Johnson.

The Television Forum

Round table discussions and forums offer difficult set-up problems for the television producer. He wants to get various views of each participant—particularly close-ups—and at the same time be able to cover the group. The seating arrangement used most frequently at WRGB is a wide V. Two tables are placed at a wide angle to each other, with a raised moderator's table at the point (see picture, page 62). One difficulty with this set-up is that cameras are liable to get in each other's field when quick cuts are needed. It is essential that the producer get the man speaking on the air. Otherwise, it is confusing to the televiewer not to be able to identify speakers.

In the second experimental news program (see

Chapter XI, page 57), the set-up for the round table discussion of *Inflation* (December 22, 1943) did not permit full face close-ups of the three professors. They were spread out at a table, one at each end and one on the long side. With two cameras covering the group from the front the camera couldn't be moved to the rear sides, only profile views were obtained of the two end table speakers. In cases such as this it would be well to mask cameras in back of the stage set's return flats,* shooting through portholes. In such a planned set-up it would take three cameras to adequately cover a forum discussion.

Another seating arrangement for round tables is having the group sit in a semicircle—no table being used. Cameras can move in for close-ups and for panning. Such an arrangement is good when a class holds an open discussion on current events. (See picture, page 66.) Seating arrangements using kidney tables and semicircular tables have been tried but each set-up leaves something to be desired for camera coverage. Some day this will be solved to the producer's and cameraman's full satisfaction when overhead crane cameras are installed in television studios.

Identifying Forum Speakers

In introducing speakers it is essential that they be identified clearly to the home viewer. One interesting method is to have their names lettered on slides. As each participant is introduced by the announcer, the person is held in close-up on a studio camera and the slide, made so that it is held in the lower part of the projection room camera field, is dissolved in over the speaker and held at half-lap and then dissolved out. The speaker's name thus appears as a caption on the screen. This also gives movement and a touch of novelty to the introduction. Otherwise the speaker can be shown in close-up and acknowledge his name by a slight nod or smile. Name plaques too can be made and placed on the table in front of each speaker, the camera first focused on the name then tilted up to a close-up of the person. This helps for reminder identifications throughout the forum.

Rehearsals

Talks and speeches need rehearsals, particularly if the speakers memorize their scripts. Even extemporaneous talks should be planned for the camera. Speakers need to be cued to start and most certainly need to be cued when to stop and to hold position until the camera is cut. Ragged endings destroy the effectiveness of discussions. Camera crews and lightmen need rehearsals with forum and round table television programs. They need to know how speakers will be identified, how speakers will be acknowledged or if it is to be a "free for all." Even in that case a rehearsal to establish the program routine will give assurance to everyone concerned. At the same time, peculiarities of speakers can be noted, program details can be ironed out, visual effects can be cued in. As much planning as is possible should be done before the T.D. (technical director) warns the studio personnel that they are about to go on the air. The producer, the technical staff (engineers) and the camera crew as well as the performers must coordinate for a good production.

*Return flats are extra 3 to 5 foot widths used to extend the wings of the stage set so that cameras shooting at angles will have set-background for shots desired.

Television Tri-city Convention

A review of the Schenectady experience would not be complete without word of the television-circuit meeting of the Albany, Troy and Schenectady Rotary Club groups back in February 1940. The international president presided by means of television from the W2XB studio. Receivers were installed in meeting rooms of the three groups so that each saw and heard their leader as he conducted the simultaneous tri-city convention.

Some Production Pointers

A recapitulation of production techniques for talk programs includes these points to be considered:

1. Types of Talk Programs.
   - **a.** Talk (never a speech) by an individual.
   - **b.** Interview.
   - **c.** Discussion (involving two or more people).
   - **d.** Round Table.
   - **e.** Forum.
2. Speaker Participation.
   - **a.** Extemporaneous.
   - **b.** Ad lib from notes.
   - **c.** Read from script (if possible with only occasional reference).
   - **d.** Memorized.
   - **e.** Open discussion (forums and round tables).

3. Visual Effects Supplementing Talk Programs.
   - a. Slides.
   - b. Film sequences.
   - c. Charts and tables.
   - d. Models.
   - e. Dramatizing portions of the talk.

4. Staging the Talk.
   - a. Seating arrangement.
     - a-1. Informal (standing up or sitting in a comfortable chair).
     - a-2. At a desk, with props on desk.
     - a-3. Standing at a blackboard or map.
   - b. Stage set.
     - b-1. Informal (any neutral background).
     - b-2. Realistic (a ship's deck, for instance).

5. Staging the Interview or Discussion.
   - a. Seating arrangement.
     - a-1. Seated comfortably on a love seat or chairs.
     - a-2. Seated on the long side of a table for camera coverage from front and side.
     - a-3. Seated at two sides of a table for camera coverage from front and side.
     - a-4. Interviewee seated at piano or easel with interviewer standing near or leaning on piano or easel. (This gives an informal air to the interview.)
     - a-5. Seated at desk or table with map or chart on easel or hung on flat. (Interviewee gets up to continue talk at map or chart.)
     - a-6. Interviewer off-camera so that speaker will be forced to look into camera.
   - b. Stage set.
     - b-1. Informal as on a park bench.
     - b-2. Stylized as in a library.
     - b-3. Realistic as in a book shop.

6. Staging the Forum or Round Table.
   - a. Seating arrangement.
     - a-1. Seated at a kidney table.
     - a-2. Seated at two tables forming a wide angle V, with moderator at point (camera movements must be watched carefully so that one camera does not get in the other's field for quick cuts).
     - a-3. Seated at three sides of a library table (for full face views of end table speakers, cameras may be masked behind flats and shoot through portholes. This requires a set-up of three cameras unless one porthole camera can get both end speakers. If portholes get into front camera field, holes can be covered by glass or coarse gauze).
     - a-4. Seated informally in a semicircle (no table).

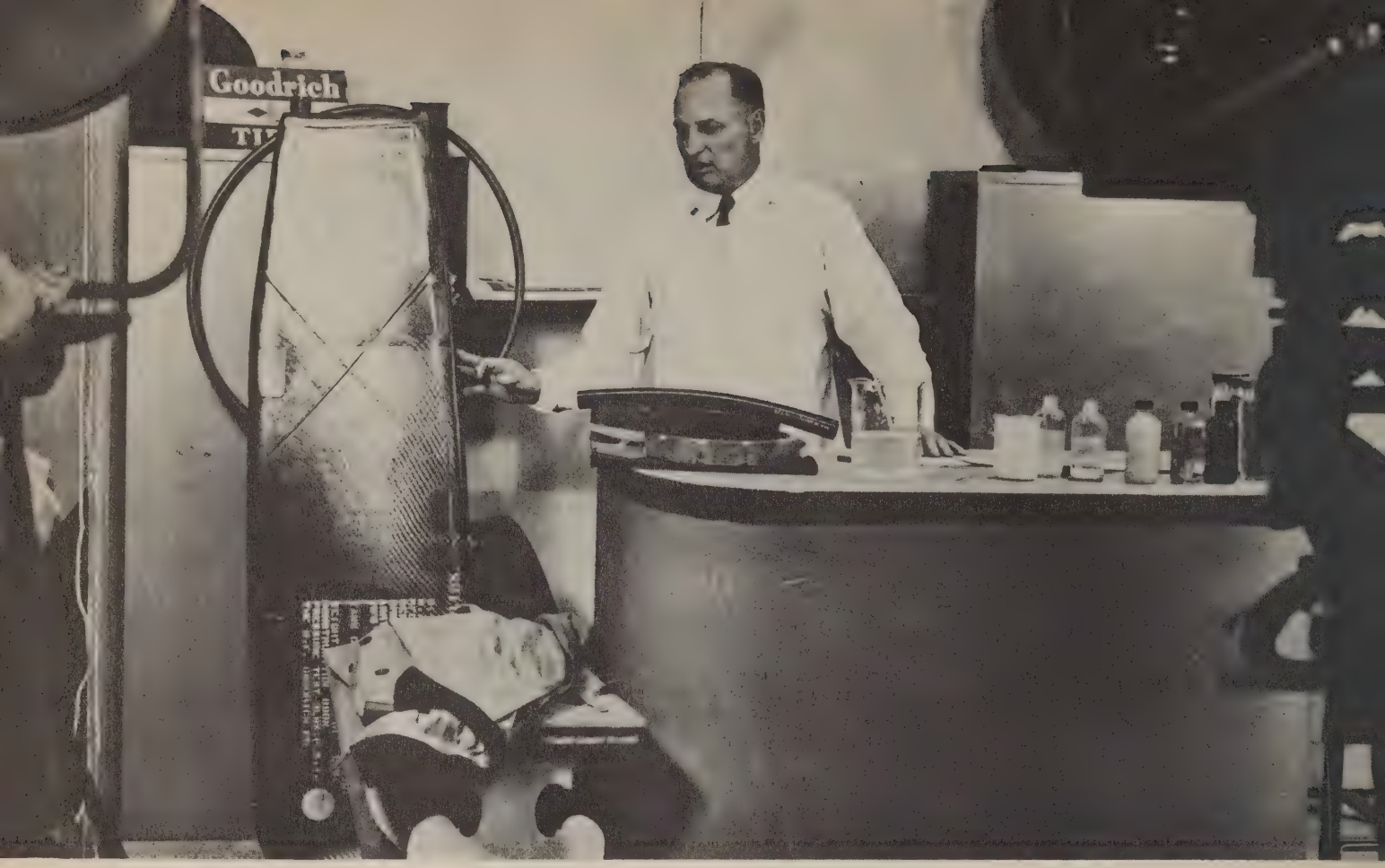
7. Introducing Speakers.
   - a. By announcer (off-camera).
     (Audience seeing close-up of speaker.)
   - b. By moderator.
     (Cameras being cut or panned to close-up of each speaker as introduced.)
   - c. By announcer and slide.
     (Speaker held in close-up on studio camera on the air. Printed name slide held on projection room camera is dissolved in over close-up, with name appearing as a caption across the bottom of the picture.)
   - d. By interviewer on set with guest.

8. Rehearsals.
   - a. Ad lib talks, interviews, discussions and round tables should be planned for program business and plotted for camera takes. Camera run-through is desirable.
   - b. Prepared talks should be camera-rehearsed with studio and technical crews.

Television As a Discussion Medium

Television will have to prepare itself for the day when political campaigns are waged before the television camera. Since most politicians are showmen, the television producer's job may not be too difficult.

It is acknowledged that radio broadcasting has been a tremendous power in molding national opinion and spreading information. Television will be many times more effective as a discussion medium but its very effectiveness increases the production problem of adding vision to talks, forums and round tables. The television special events director is faced with the problem of making such a program look good as well as sound good.



THE two pictures on this page demonstrate how both the laboratory and the class room can be brought into the home or school and shared with other laboratories and schools through television.

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XIII

Visual Education by Television

Television will give new impetus to the informative program. It can give picture settings to prosaic subjects, supply the missing element of drama to an educational show and make the classroom session in science, literature, art and geography an adventure. Although the informative show is directed to a specific group, it must be of general interest too, appealing to the home audience as well as to the group addressed.

When televising an educational show—whether it be a travelogue or science experiment—the presentation will have to be heightened dramatically to hold home viewer or classroom attention. This can be done by symbolic effects, by emphasis of movement and action, by camera work and locale atmosphere.

The Travelogue

One of the most successful travelogue telecasts at WRGB included a map talk, a sequence of slides, an exhibit of curios, a class discussion and a *March of Time* film. This hour telecast *Australia: Its Land, Its People and Its Cultures* (March 1, 1942) appealed to the classroom and the home viewer alike. The map talk on Australia and her neighboring countries by Mark De Ferranti was pictorially heightened by slides taken from *Life* Magazine's picture story of that Pacific island country. From the map talk, Mr. De Ferranti turned to an exhibit of native weapons. The commentator told strange stories about the weapons as he held each up so that cameras could get clear close-ups. His talk was informative and at the same time interesting. A group of children, who were studying Australia at school, crowded around the exhibits, becoming a part of the whole show. This led to an easy transition into their discussion about Australia. Each child had a separate topic and each knew his subject. The home audience rated this purely educational program, which closed with a showing of the *March of Time* film, *Australia at War,* as "better than good," a high rating for any type of telecast.

A second program along these same lines, *Panamericana* (May 2, 1942), was less successful because of the lack of planning, lack of rehearsal, and lack of interest by the school children. The children had not been working on a South American project, consequently, they were not well versed in their subject. It was a last-minute assignment, but the fault lay with the producer who could have built a top-notch telecast with the ingredients he had—samples of exports, dances and skits on customs of our Latin neighbors. The drama was there.

Programs Labeled "Educational"

An examination of the programs labeled "Educational" on the WRGB program log includes such subjects as a talk on *The Far East Today, Simple Experiments in Sound, Scotia High School Orchestra Rehearsal, The Ancient Art of Pottery, Looking at Art Collections,* and *The History of Tea.* Other educational telecasts were *First Aid* demonstrations, a camera view of *Red Cross Nurses Aide Activities,* public speaking hints titled *Trippingly on the Tongue,* dog shows and demonstrations by the B. F. Goodrich Company of synthetic rubber, how to make it and some of its household uses.

The Science Program

The Goodrich show (August 6, 1943) gave a post-war preview of the many uses of synthetic rubber. The half-hour documentary started out with a demonstration of the manufacture of synthetic rubber (top picture on opposite page). The necessary chemical laboratory apparatus was set up in the studio and the synthetic rubber process explained step by step. The demonstrator produced a handful of the

rubber substitute. The telecast went on to show the uses of fabrics made from Koroseal, the trade name of the Goodrich synthetic material. One of the most amusing skits and one which appealed to every woman watching the program, showed Mrs. Housewife housecleaning. She wanted her Koroseal curtains taken down and laundered so the man of the house just took them out on the lawn and turned on the hose. They were washed free from dust in no time, ready to be re-hung without stretching and ironing. All of this was done on three sets. Planned area playing and camera plotting provided for smooth picture sequences which told the story of rubber substitutes and their uses effectively and entertainingly. (See picture, page 122.)

In presenting a science show every detail of the demonstration must be clearly shown for home and classroom viewing. The program producer will have to try backgrounds, lighting sources and positions of gadgets for photographic effectiveness. Further, the performer, whether lecturer, scientist or commentator, will have to rehearse and time his actions for the camera. The producer of the program cannot very well say in the middle of the telecast "that bit about pouring off the liquid and seeing the crystal residue didn't come off, Dr. Knowall. We'll have to do it over again." There are no re-takes in television.

Scientific Telecasts

One of the first scientific telecasts, on the 40th anniversary of the founding of G-E's Research Laboratory (December 13, 1940) opened with a demonstration of *Glass to Metal Seals* by Dr. Francis Norton. This was followed by a motion picture telling the story of the cathode-ray tube, the electronic wonder which is the heart of radio and television. The second half of the program, a motion picture, flowed naturally out of the studio demonstration.

A scientific experiment of particular interest to school children was Dr. Francis Norton's *Simple Experiment in Sound* (Feb. 19, 1942). He started by taking a drinking glass, wetting his finger and producing musical sounds by rubbing his wet finger over its rim. Television's sight plus sound heightened the drama of the experiment, especially in close-up takes of his hand and the glass. Dr. Norton went on to discuss the notes of the musical scales, assisted by a boy violinist and a girl pianist and by the use of film slides and a recording of Edison's voice. The full range and blending of sound were illustrated by a Walter Damrosch movie which closed the program.

Frequently since then orchestras of the various high schools in and near Schenectady (four of them) have telecast rehearsals after school hours when other children could be at home to watch and listen at the living room television receiver. (WRGB was telecasting two afternoons a week in 1942 and 1943.) These orchestra rehearsal telecasts, showing the application of the experiment in sound to music, also showed the informality and fun of a band rehearsal, the going over of parts and the blending of instruments into the school orchestra.

Television took viewers backstage in radio and let them see how an *Excursions in Science* (Sept. 23, 1943) program is recorded. They saw the recording studio with its turntables, the glass panelled studio and the performers, and then actually heard and saw the recording being cut. That the science program can be timely and interesting was proved when the *Science of Good Lighting* (Jan. 27, 1944) was made simple by chart and lamps. And then C. M. Ripley explained and showed the heated clothing worn by high altitude flyers—everything from electrically heated shoes, trousers, gloves, and jacket to the heated oxygen mask which makes breathing easy at high altitudes (June 22, 1944).

Living History

The informative program on television is not dull. If it is dull, it is because it was given a poor production. History, for instance, can be made alive, can be part of today's scene. This was done in a series on *Old Schenectady* (May 12, 1943). As several noted Schenectady historians sat around a table, discussing the pioneer days, the founding settlers (actors in costumes) were introduced to televiewers, one after the other by means of lap dissolves. This was accomplished by using two identical stage sets, placing one "pioneer" on the left of one set and another "pioneer" on the right of the second set. A separate camera was used for each "pioneer," lining up one actor in the left of the first camera field and another actor in the right of the second camera field. After the first "pioneer" was introduced, the second was dissolved in over the first camera picture, bringing the two pioneers together on the screen, and having the old timers greet each other, as well as the historians. The first pioneer was then faded out and a

third founding settler quickly stepped into the proper space on the stage set and was dissolved in over the camera picture on the air, thus introducing another returning Schenectadian. Scale models of old homes and of the Schenectady stockade which was burned down by the Indians, and of historic Dutch cooking dishes and other mementos added living drama to history.

The informative program can be enjoyed by the television audience, providing it is kept short and fast paced. One difficulty is that writer and producer are apt to let the telecast run on and on. Judicious cutting and tight playing can tone up a telecast. This was done to some extent with *The History of Tea and How to Make It,* presented over WRGB (June 8, 1944) by the Tea Bureau, Inc. The Chinese fable of a sleeping sage, of his punishing himself by plucking an eyebrow and dashing it to the ground, of the sprouting tea plant, and his inquiring nibbling of its leaves was an intriguing opening to the story of tea. A map talk showing where tea is grown, something about tea's influence on commerce, slides of the Yankee Clipper, and a film flash of England's Tea Wagons gave visual interest to the talk, which ended with a returned Yankee soldier showing his wife how tea should be brewed. The script should have been cut more drastically than it was and the speaker should have memorized his talk. Actually there was enough material in the program for a series on growing tea, the influence of tea on commerce, and how to brew tea. (See script, pages 196-201.)

Teaching Languages

Not only do science, geography, and history have a place in television but languages also merit attention. What better way is there to teach something about public speaking than by television where proper poise, stance, and gesture can be shown? Vera Gough, speech expert from Boston University, not only demonstrated this (June 3, 1943) but pointed it up dramatically with a raw recruit. Hearing mispronounced words and seeing an untrained speaker told viewers more about what was wrong than dozens of discussions could have pointed out.

The *How Do You Pronounce It* quiz series put on by Russell Sage College during 1942 and 1944 was both fun and instructive. In addition to the quizmaster, there was an expert, and three contestants. They were seated in a semicircle, so that one camera could get a good two-shot of the expert and quizmaster, and the other camera could cover the contestants. Slides of the words which were to be pronounced and defined were cued into the television program so that viewers could see the words as they were given to contestants. For easy camera coverage, the contestants took words in order of seating with the expert ruling upon the contestants' response. These programs were lively sessions, with a lot of discussion on the British and American use and pronunciation of many common English words.

Art Appreciation

Every informative program offers its own challenging television production problems. This is particularly true of art appreciation telecasts. Julius Pardi of G-E used a turning wheel in his demonstration of *The Ancient Art of Pottery* (Sept. 20, 1940). *Modeling in Clay* (Feb. 12, 1942) had a general appeal both to students and to the home audience. These two programs required particular planning and camera study for effective telecasting. *Modeling in Clay* was handled as a hobby and proved very entertaining. Also, *Painting as a Hobby* was interesting (Feb. 26, 1942). In this program, Marjorie Mannes, graduate of the College of Fine Arts, Syracuse University, discussed composition briefly, showed some paintings and closed the quarter-hour by doing a charcoal sketch of a model. The home audience was given a brief glimpse of the sketch. Then when Miss Mannes had completed it, the model was dissolved into the sketch. This required exact framing of the model and the sketch on each camera and was done by one camera holding a view of the model in pose similar to the sketch. Then a second camera, focused on the sketch, was dissolved in through the model, showing the finished drawing.

Combined Travelogue and Art Study

Sketching offers a wide variety of program possibilities. *Sketching Through Belgium* with Edward Buyck, world renowned artist, was a combined travelogue and art study (Oct. 14, 1942). His rapid sketches illustrated an interesting commentary on Belgium. A camera shot of both artist and his sketching at the easel established person and action. It has been found that paper, punched and hung on nails, can be removed rapidly and with the minimum of noise as each sketch is finished—tearing pages from

sketch pads makes considerable noise which is picked up by the microphone. Pictures should be drawn in ratio to the camera mosaic (for example: 18 by 24 inches) so that they fill the lens field, thus showing up details.

Artist's Sense of Gray Scale

When Phil Saint delivered a religious chalk talk on *Gospel Illustrated* (March 17, 1943), his shading in his landscape sketch was so excellent that it produced the illusion of several colors. His sense of the gray scale, so important to black and white television, was incredible until it was learned that he was color blind. He probably saw a color in terms of its complement which helped to grade it for him. He used colored crayons including a great deal of red which has good gray values, knowledge which is very essential to the scenic artist.

Teaching Art

Charles McGarrahan, the WRGB staff artist, received a rating of "excellent" from the television audience when he demonstrated *Composition in Art,* a talk on art principles. Slides of the basic six art forms—triangle, square, rectangle, circle, etc., were used to illustrate his comments. He then drew a picture based on the slide that had just been flashed on the screen, using bold strokes so that his sketches stood out clearly in the camera takes.

Chalk and Paper Stock

Under General Electric's mercury vapor water-cooled lights, McGarrahan found that for rapid sketches (cartoons, object drawing in outline or technical drawings) lecturer's chalk gave the best results. The chalk preferably should be black (large size stick) sharpened to a point to give bold lines. India ink may be used but there is danger of any liquid pigment running since the on-camera drawing is usually done at an easel. An off-white shade of paper stock gives best results.

In further experimenting with paper and chalk, McGarrahan found that for pictorial work it is best to confine the palette to three colors—white, medium gray and black. Lecturer's chalk gives the best reproduction and if used on quarter-tint gray bogus paper, a pleasing tonal arrangement results, which closely approximates the contrast range of television's five-step gray scale test pattern.

Sketching for Television

The artist should practice sketching for television. He must be able to judge balance between light and dark areas, highlights and shadows. He must learn to make bold strokes, dark and definite, as background objects done in white do not show up well. Also, it was found that pre-drawn penciled sketches could be filled in rapidly with lecturer's chalk. This makes a faster-paced show and holds viewer interest. Otherwise, it takes the artist too long to draw a picture and viewers get bored.

When Sgt. George Baker, creator of *Sad Sack,* was at Schenectady with the *Yank* television show (Nov. 26, 1943) he had his cartoons penciled in; on the air he went over the picture in charcoal. His spot was the best part of the show, according to the home audience reports.

Camera coverage and lighting need special attention in art appreciation telecasts. Cameras must be able to be dollied in for close-ups of the sketches, and the picture should be so lighted that there are no shadows on it.

Art and Television

Art Interpretation of Music, a series of sketches, both abstract and pictorial, inspired by classical music, has been discussed at length in Chapter IX on Music. The infinite cultural advantages made possible by television in art appreciation cannot be measured. Many homes will be seeing photographic exhibits and art treasures for the first time and lives will be made richer by television.

Teaching Gardening or Sports

Television can be helpful with many practical and everyday suggestions like the *Victory Garden* series at Schenectady which ran weekly from "Planning the Garden" (March 17, 1943) through the spading, hoeing and harvesting of crops (Sept. 9, 1943). Many of these telecasts originated from the garden patch just outside the studio. It was an added interest and a challenge to home gardeners to see how much better their crops turned out, to learn about proper planting methods, to see scientific insect control and to hear State Agricultural authorities who participated in the series. Specific "how to" programs of this series, particularly *How to Can,* are discussed in Chapter XIV, pages 76 and 77.

Sports should play a part in every school child's curriculum. Lessons by television will add fun to general discussions on basketball rules, calisthenics and boxing. Bringing a school gym team into the television studio for a demonstration of self-defense and body-building has been proven interesting to home viewers. The Springfield College Gym Team put on an exhibit (March 8, 1942) of parallel bars, side horse, springboard and mat work. Two cameras covered the floor work which was spread over the full area of the studio, and a third camera was mounted on a tower to shoot down for overhead takes. Because the action was spread over such a large area few close-ups were obtained. In spite of this, televiewers rated the show "better than good."

Production Techniques

The informative program requires a great deal of preparation for television presentation if it is not to be boring. The burden of the dramatic visual effectiveness of such shows rests upon the producer. He will have to use ingenuity to intrigue and to hold the interest of home and classroom audiences.

A summary of television techniques for the educational program, based on the WRGB experience, must include a review of these points:

1. Types of Educational Programs.
   - **a.** Demonstrations.
     - a-1. Scientific experiments.
     - a-2. Film documentaries.
     - a-3. Art (cartooning, sketching).
     - a-4. English (public speaking).
     - a-5. Sports (playing games).
   - **b.** Studio classroom sessions.
     - b-1. In science.
     - b-2. In history.
     - b-3. In speech.
     - b-4. In art.
   - **c.** Travelogues (using film, sketches, slides and studio presentation).
     - c-1. History in the making.
     - c-2. Visits to foreign lands.
     - c-3. Romance in history.
     - c-4. Sketching through a country.
   - **d.** Art appreciation.
     - d-1. Basic art forms.
     - d-2. Cartooning.
     - d-3. Art interpretation of music.
     - d-4. Art exhibits.
     - d-5. Line drawings.
   - **e.** Forums.
     (See Chapter XII.)

2. Presentation of Educational Programs.
   - **a.** Laboratory set-up in studio (may be supplemented by film).
     - a-1. Scientific experiments.
     - a-2. Manufacturing processes.
   - **b.** Relief maps and film travelogues.
     - b-1. Tour of Australia.
     - b-2. Programs supplemented by native dances and curios in studio.
   - **c.** Languages.
     - c-1. How to talk in public.
     - c-2. Use of charts to teach speech.
     - c-3. Games (see Chapter XVII, page 91; and Chapter XIX, pages 103 and 104).
   - **d.** Quiz programs (learning made fun).
     - d-1. How to pronounce it (word game).
     - d-2. History quiz.
   - **e.** Forums.
     - e-1. Authorities discussing timely topics with or without visual effects (see Chapter XII).
     - e-2. School children discussions.
   - **f.** Film.
     - f-1. Travelogues (basically all film with studio introduction).
     - f-2. Sequences introduced in studio presentations to specifically point up details in scientific or manufacturing processes.

3. Stage Setting.
   - **a.** Realistic.
     - a-1. Laboratory set-up.
     - a-2. Hunting lodge.
     - a-3. Classroom.
     - a-4. Library for map talks, forums.
   - **b.** Neutral background.

4. Preparation and Rehearsal.
   - **a.** Preparation of visual educational programs.
     - a-1. The more detailed preparation, the better the production.
     - a-2. Planned camera action to cover all

stage business and important process details.

a-3. Planned camera sequences so program flows to a logical conclusion.

b. Rehearsals for participants and for program details.

b-1. Trying visual effects on camera to see how they work, if they are visible.

b-2. Run-through rehearsals with participants to set action.

b-3. Timing of lecturer's gestures, particularly when demonstrating objects that are to be held in close-up on camera or to be pointed out for a close-up camera take.

b-4. Full camera crew rehearsal with studio and technical staffs. At least one full camera rehearsal; two, if possible.

The Television Schoolroom

It can be anticipated that scientific and historical programs will be scheduled during school hours when classes of various schools in the area as well as the home audience can watch them. It can be assumed that some day most public school systems will have television stations of their own. Until that day schools will want to supplement their classes and training courses with programs televised by regular commercial stations.

The educational program on television can be so broad in scope and interest that it will appeal to the housewife, the father and the children. The job of the television producer is to make education visually palatable, to make it amusing and interest-holding as well as informative. Television is bound to create a new concept of education in the home and classroom.

XIV

The Home and the Workshop

It is not a far cry from the home to the workshop. Men and women at home or at the factory are eager to learn time-saving ways of doing routine jobs and to see new things. Television will play its part in giving them this information.

It will be the job of the television producer, however, to make the "how to" programs interesting by dramatic use of visual effects. The housewife can be intrigued into watching a studio cook whip up cake batter or turn ice-box left-overs into a tempting dish, or intrigued into watching a washing machine demonstration, thereby learning something about its operation, but it will take little coaxing to give the man who is interested in sports, a television lesson in flycasting or pocket billiards right in the comfort of his living room.

If and when television takes on the job of teaching factory training classes by showing assembly line or work bench processes, it will call for program production ingenuity. One factor in television's favor is that by the combined use of film and live talent immediacy and emphasis are given to a session. Such programs explaining safety methods or manufacturing stages could be discussed with many men in many factories at the same time and could be of interest to the casual televiewer.

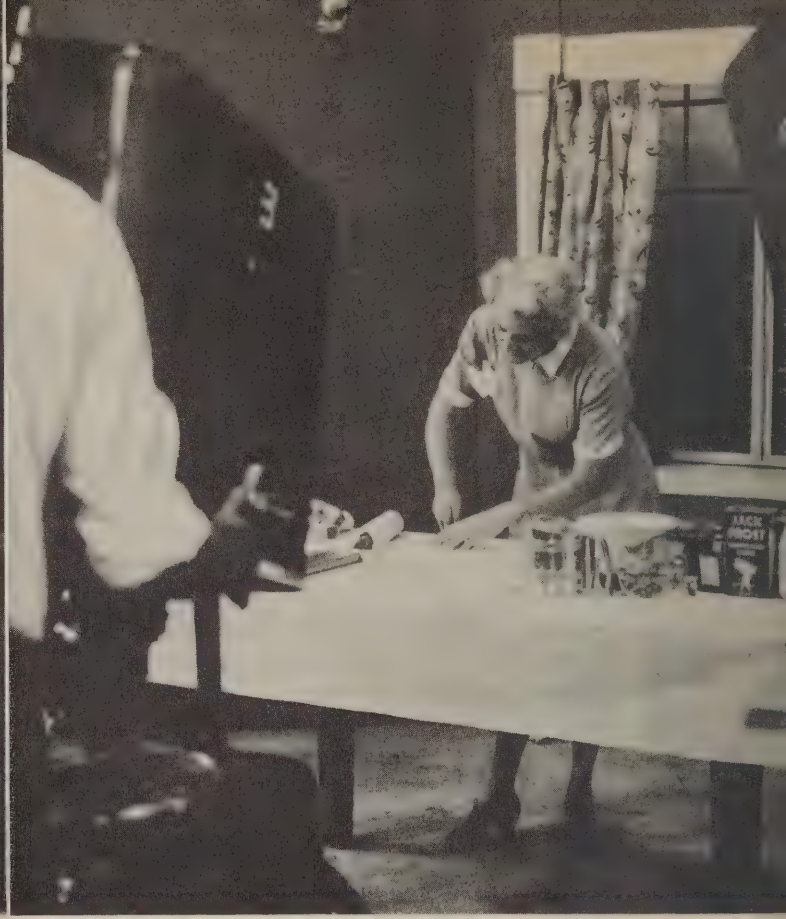
The Woman's Program

Presenting the purely woman's program, which will probably occupy a sizeable portion of a television station's daytime schedule, will require considerable planning and staging. In one of the first experiments tried with this type of telecast, an hour program was planned consisting of three parts: *Nursery Stories, Red Cross at Work,* and *Physical Fitness* (July 15, 1942). *Nursery Stories* showed how the mother of three small children entertained her energetic offspring on a rainy afternoon by getting them to act the story she had just read to them. The cameras caught the children in appealing attitudes and the story itself was illustrated by slides. The telecast closed with the children eagerly playing by themselves. Such a program must be camera planned but not rehearsed as it is better for the children to react naturally. The program was well received by the television audience, one woman writing: "This woman certainly knows children and presented several excellent suggestions that were new to me."

Part of the *Woman's Hour* showed a group of civilian helpers at the Red Cross. They were receiving instructions in rolling bandages, knitting and sorting clothes. The women who participated were volunteer workers and were self-conscious before the cameras. This portion of the experiment was not well received by viewers, although camera coverage showed clearly the details of rolling bandages and knitting. But this is not enough. The instructions must be made dramatic to hold audience interest. However, the demonstration of simple exercises to achieve and maintain *Physical Fitness* was enjoyed by the home audience and made a fast moving, interest-holding program.

Exercise Classes

Morning exercise classes will probably become popular, if and when such programs become part of the television station's schedule. Calisthenics attract the woman who wants to lose weight. The Russell Sage College program, *Keeping Fit Through Exercise* (Feb. 13, 1942), gave viewers a lot of helpful suggestions. Every movement in these exercises was shown. Seeing someone else exercise, plus the rhythm of the music, creates a desire to do the bending and stretching in unison with the performer.



TELEVISION has no rival as a "how to do it" medium, as these four pictures indicate. They also indicate the daytime power of the medium. Upper left: Esther Foley of the New York *Herald Tribune* shows how to buy an artichoke. Upper right: Consuelo Kelly starts cooking a meal. Lower left: A *McCalls* Magazine stylist tells the secrets of cutting and fitting a dress. Lower right: A lighting specialist explains the correct way to light the reading unit. The pictures demonstrate the effectiveness of television.

Cooking Instruction

Some of the more routine cooking programs televised included *How to Prepare Banana Dishes* (Aug. 25, 1940), the *Fine Art of Carving a Turkey,* demonstrated by Marcel Martel, head chef of the Albany DeWitt Clinton Hotel (Nov. 17, 1940), and *Preparing Canapes* (Dec. 9, 1942).

Consuelo Kelly gave a series of four cooking demontrations, using an electric stove and modern cooking utensils. The program was good television. She cooked and prepared a full meal right in front of the cameras, showing how previously prepared vegetables and salads could save the housewife time in getting dinner for the family. In looking over the program ratings on this series, it's interesting to note the increase in interest in the series by home viewers. The first two cooking demonstrations were rated "good"; the last two "excellent."

Consumer Shopping

During the New York *Herald Tribune* program on WRGB (April 28, 1944), Esther Foley of the newspaper's Home Institute gave a demonstration of consumer shopping for the family vegetables. The stage set was a corner of a vegetable store, with vegetables in bins. Miss Foley discussed with the storekeeper the vegetables in season, their prices and their nutritive values as she made her purchases. This type of program is a consumer service and should attract a wide audience.

Interior Decorating

Interior decorating telecasts appeal to women, according to Schenectady experience. In the Plan-A-Room program (Sept. 4, 1942), a model room plan was used, which approximately filled the camera field on a close-up. Model furniture, made out of paper, was moved about and arranged in reading and conversational units. The decorator explained the advantages of furniture groupings. Unfortunately the model furniture and the model room plan were of the same gray scale tone and were too small for clear photographing through the television system. Furniture and room plan should be of contrasting shades of gray so that they show up well.

An interesting method of presenting antiques used an auctioneer and slides to give atmosphere to a discussion of Chippendale and Hepplewhite chairs and sideboards. The antiques were brought right into the studio. When the claw-and-ball foot was mentioned, a slide showing the details was cut into the program. This technique of handling furniture, using an auctioneer, added comedy and movement to what might be a dull talk.

Party Suggestions

Holiday party suggestions can make interest-holding telecasts. Women who plan parties for their children or the children themselves, welcome suggestions for making St. Valentine's or Hallowe'en party favors, fancy cakes, and games. Martha Brooks brought into the studio paper and shears, cookies and cheese, and went to work in front of the cameras demonstrating simple ways of making holiday favors and decorations. Such telecasts must be kept short and fast-paced. Camera work must concentrate on the actual work, but the producer should provide some comedy relief. A paper cap set jauntily on the head of the familiar announcer adds that needed laugh to a "how to" telecast.

"Home Hints" Series

More practical, every-day household hints are given in the entertaining series *Home Hints* from *Popular Science* magazine which has been telecast, off and on by WRGB since 1942. The visual presentation of the magazine feature combines entertainment and instruction in a unique manner. An animated puppet made with the magazine, *Popular Science,* as its body (see picture, page 88), gives advice on how to fix a leaky faucet, how to clean dusty lamp shades or how to prepare an attractive lunch box. Actually, an announcer off-camera speaks for the puppet which is operated by a trained puppeteer. The off-camera voice gets around the necessity of memorizing script. The program requires two cameras and two stage sets, one for the puppet and a kitchen for the housewife, Mrs. Ima Fixit. Mr. Popular Science, as the puppet is called, refers Mrs. Ima Fixit to some bit of advice on a particular page when she is stuck by a household task; Mrs. Ima Fixit demonstrates in pantomime the household tip suggested by the puppet. The producer cuts from one camera to the other for story progression and slides are used to illustrate many hints.

Sewing Series

Another series, "The McCall Sewing Series," (Feb. 10, 1943) showed how television can make dressmaking instruction hold attention. Edith Balfour Dunn of *McCalls* Magazine gave a series of three programs starting with the selection of the pattern and instructions in its use, cutting the material, and sewing the dress. Slides, charts and studio demonstrations made home sewing seem simple. The series, televised to afternoon audiences, received the rating of "excellent" from home viewers. Camera coverage was so planned that every detail and important piece of business was taken in close-up views. The use of an attractive model added interest to the series. (See picture, page 74.)

Demonstrating Washing Machines

One of the most effective television commercials was a demonstration of the Easy Washer washing machine, presented in cooperation with the BBD&O advertising agency. The parts of the washer were taken out and explained to a housewife in the studio. They were so held that close-up camera takes showed the parts clearly and in detail. A boomed up camera was focused down into the machine so that the home lookers-in also could see the inside of the washer, and the hand of the announcer pointing out the various parts as they were replaced. A spot light focused on the inside of the washer would have given a brighter camera picture so that the home audience could have seen, in better detail, a wash being done. As it was, the commercial was effective. (See Chapter XXIV, page 124.)

Group Instructions by Television

Television does add the needed element of timeliness to the informative and "how to" program. Many people during the early part of the war were interested in First Aid and in blackout precautions. WRGB telecast programs on *Airplane Spotting, Fighting Incendiary Bombs,* and a film series on *Training Air-Raid Wardens.* Odd things do happen during studio shows which add an unexpected laugh to a serious subject. When WRGB telecast *Fighting Incendiary Bombs* (Jan. 9, 1942), Fire Chief Higgins demonstrated how to handle fire bombs, using a model incendiary bomb and drawings. The fire bomb, when released, filled the studio with smoke and people were seen through a haze for some minutes before the air conditioning system cleared the studio and the program could be continued. The film, *Stop That Fire,* was included in the telecast as part of the demonstration.

Use of Film in Training Programs

Film is destined to play a leading role in documentary telecasts, whether "how to," personnel training, manufacturing or scientific programs. When it is necessary to show details or processes which under normal conditions take hours, film will be the answer. The time element necessary for the process can be condensed into a few moments when the action is put on film. By making a motion picture of a demonstration, parts of the apparatus or other minute details can be photographed from every view with special lighting, which is practically impossible in studio telecasts when a show must move continuously to its conclusion. Such programs where manufacturing processes or complicated machinery are shown in detail by means of film, will be televised using a studio production setting to give immediacy to the film story.

Training Personnel by Television

Some day organizations will make use of television for training personnel and assembly line workers. This was done with the film series, *Training Air-Raid Wardens,* during the war years (1942-44). Air-Raid Wardens gathered in groups at homes of set owners to watch the weekly television programs. The series covered every phase of training from blackout procedure to fighting incendiary bombs to administering first aid.

Victory Garden and Canning Series

During 1943, WRGB telecast a weekly series on Victory Gardens from the preparing of the ground right through the growing and canning season. Taking up gardening and food preservation problems as they occurred in the garden which was planted just outside of the studio, kept victory gardeners interested in the series. Many of the programs originated outdoors in the garden. The camera watched farm authorities show how to make furrows for various types of vegetables and actually photographed the seed planting. Another telecast

showed the proper method of transplanting young tomato and pepper plants. Of particular interest to the housewife were the canning sessions, showing how vegetables should be canned. The necessary apparatus was brought right into the studio and set up like a home kitchen. Jars, lids and rubber rings were sterilized, vegetables prepared and the canning process explained by Jeanette McCay of New York State College of Home Economics. By using film, the whole process of canning from picking of vegetables to sending the jars down the assembly line could be quickly and easily shown to canning factory workers. Television may one day fill this role.

Laboratory Session

Film would have added further interest to the well-received telecast, *The Art of Glass Blowing,* an actual demonstration by Arthur Snelling of the G-E Research Laboratory (Oct. 7, 1942). Snelling brought his regular workbench and apparatus into the studio. He showed how glass was heated over a flame until soft. He then blew the glass into animal forms. A film sequence could have shown many details too refined for the television cameras to get except in extreme close-ups which are not practical.

Series on Television

One of the most fascinating subjects to the television set owner is his television set. To be sure that set owners and the family were familiar with their sets, WRGB broadcast an instruction series: *How to Operate Your Television Set, How Television Works,* and finally, *This Is Television,* a conducted tour of the studio during a play rehearsal.

In *How to Operate Your Television Set* (March 5, 1943) a receiver was brought before the cameras. An engineer explained its parts. Close-up takes and slide drawings were cut in to make clear every step in the demonstration. Brightness and focus controls were illustrated by the shading control monitor engineer turning his controls as the engineer at the receiver before the camera explained tuning.

Fundamentals of Sports and Games

Sports have a national appeal and have a definite place in television. In addition to covering football and baseball games and fights television can entertain and teach at the same time. Andrew Ponzi opened his telecast (Jan. 21, 1944) with a demonstration of the eight fundamentals of correct billiards (see *Sports,* pages 18 and 22). The Remington Arms half-hour telecast on places and seasons to hunt, including demonstrations of guns and ammunition, was of interest to sportsmen and to the average man. Another telecast in this field was a demonstration of shooting positions by the G-E Basic Small Arms Group. The television camera, in well planned and directed programs, can bring every detail into the home.

The fundamentals of practically any game can be explained and shown to the home audience (see Chapter XVII, *Telecasting Games and Quizzes*). To name a few which were tried at WRGB: *How to Play Gin Rummy* (Feb. 19, 1942), Scardino and his *Magnetic Checkerboard* (Aug. 13, 1942) and *Bridge Demonstration* by the American Association of Playing Card Manufacturers with Mr. & Mrs. William McKenny and Mr. and Mrs. Arthur Sobel.

Bridge Demonstrations

The *Bridge Demonstration* (Oct. 7, 1943) was not too successful. The bridge hands were set in advance. Large cards, showing the hands, were tacked on the stage flats. The camera, though, had to dolly so far back to show the full four hands that it was impossible to see the suit symbols on long-shots. Even though a commentator explained the hands and the plays, the camera coverage was erratic. Much of the camera work was off-the-cuff and one of the cameramen didn't know bridge or cards so was unable to pan swiftly to indicated suits. However, a viewer report stated, "Bridge fan in my home thought game well worked out. Hands posted on wall were visible. Plays on table were not." (See picture, page 92.)

Techniques for "How To" Programs

Television is well suited to demonstrate "how to" programs and to add the personal dramatic touch which makes learning easy and entertaining. The use of television in this field is unlimited. The successful instructive telecast should receive well-thought-out planning and presentation. A review of these factors includes:

1. Type of "How To" Programs.
   a. Woman's Hour Programs.

a-1. Cooking demonstrations.
a-2. Buying vegetables.
a-3. Household Hints (tips on cleaning, mending, washing, etc.)
a-4. Sewing lessons.
a-5. Interior Decorating.
a-6. Party Suggestions.

b. Care of Children.
b-1. Amusing children.
b-2. Care of Babies.
Series by noted pediatricians. Such a series can be of invaluable aid to young mothers.
b-3. Parents' Attitude toward School Children. A suggested series as a result of mail received at WRGB.

c. Service Programs.
c-1. Red Cross activities.
c-2. Victory Gardening.
c-3. Home Defense.
Fighting incendiary bombs, etc.
c-4. Physical Fitness exercises.

d. How to Play Games (see Chapter XVII).
d-1. Bridge demonstration.
(Using jumbo cards and champion players.)
d-2. Magnetic Checkerboard.
d-3. Gin Rummy.
(Using jumbo cards.)

e. Workshop Programs.
e-1. Seeing how glass is blown.
Workbench demonstration.
e-2. Building model planes.
(See Chapter XIX, page 104.)
e-3. Mixing Paints for in or outdoor chores.
(Science demonstration.)
e-4. Learning how a television receiving set works.
e-5. Sports.
Lessons in flycasting and billiards.

2. Use of Film.

a. Combined with an instructor or authority at the television studio.
a-1. To add drama and immediacy to the film.
a-2. To show in detail manufacturing or scientific processes.

b. Training Personnel.
b-1. "Air Rail Wardens" series.
b-2. Other possible training series, such as assembly line work, canning processes, etc.

3. Planning and Staging.

a. Woman's Hour Programs.
a-1. Cooking Programs.
Use model kitchen either fully installed or stage set-up. Camera work should be planned to show every important detail, whether washing and cleaning vegetables, mixing batter or putting the roast into the oven. Be sure that vegetables used show up on the screen. The demonstrator must work with the producer for an effective show.
a-2. Buying Vegetables.
Use a vegetable store stage set with bins of fresh vegetables or a home kitchen set. In either case an authority should explain value and economy of purchases as well as nutritive value of vegetables.
a-3. Household Hints.
It's essential that the television audience see the hint put into effect. The producer must devise ways of showing that broken electric iron cord and how to repair it. Slides come in handy to illustrate this type of program. The washing machine demonstration was an effective commercial. It showed housewives how to get the family laundry done with greater efficiency.
a-4. Sewing Lessons.
A cutting table and sewing machine, shears, thread, and fabric as well as pattern should all be handy. Every step of the lesson should be covered by camera and should be made personal. Just seeing how to turn a hem will not keep the woman at home interested. The visual program must arouse a style-conscious desire to go and do likewise.
a-5. Interior Decorating.
Offers a field day to television. Room plans, furniture and fabrics can be shown. Living rooms, bedrooms, and

kitchens can be made into attractive quarters. Model furniture, to scale size, or actual pieces can be brought into the studio. Imagination and ingenuity can attract and keep the homemaker watching—and that watching can be turned into buying.

b. Care of Children.

b-1. Amusing Children.

Storytelling can show "mother" and a circle of children. Slides and film can illustrate the story; music can help set the pace. Keeping the children amused is no easy task and putting on a telecast, showing how to amuse children, also is no easy task. Cut-out games for children, teaching children how to read or how to make toys all hold suggestions to pass on to the mother at home.

b-2. Care of Babies.

Such a series should be supervised by a noted pediatrician and should include everything from diapering the baby, and feeding him, to training him in correct social habits.

b-3. Parents' Attitude toward School Children.

This series must be handled subtly so that it is effective and does not offend parents. Amusing skits might be the best method. Laughing at ourselves can be very beneficial both to parents and to children.

c. Service Programs.

c-1. Duplicate the natural setting of the situation in the studio. For Red Cross activities visit the local chapter and see how volunteers are trained. Bring this setting right into the studio.

c-2. The Victory Gardening series at WRGB was more effective when the telecasts originated from the garden itself. Telling about things isn't enough. It is television's job to show how young seedlings should be planted; how corn on the cob can be canned; how to kill potato bugs. And don't forget to plot the camera takes and to add a laugh here and there. Learning should not be a serious business.

c-3. Physical fitness exercises can be staged right on the studio floor, with a piano for music and curtains for background.

d. How to Play Games (see Chapter XVII).

d-1. Authorities giving instructions will hold televiewer attention.

d-2. How to show the various stages of the game before the cameras is the problem producers must work out.

e. Workshop Programs.

e-1. Scientific telecasts should be set up with a laboratory setting or factory surrounding if that is the locale of the process being shown. Film will help make such a telecast visually effective and will add dramatic movement. The producer will have to determine the purpose of the telecast to know what aspects to emphasize.

e-2. A stage set of a home workshop, the dream of every tinkerer, will make an excellent background for telecasts showing how to make model airplanes, or how to mix paints, or how to mend a chair.

e-3. Flycasting and billiards were telecast right in the studio with traveler curtains as a background. No attempt was made to give the sports natural backgrounds. Interest was concentrated in the game. Atmosphere was added through the audience in the studio.

4. Rehearsal.

a. A 15-minute "how to" program may require an hour to an hour and a half rehearsal. It should be rehearsed for stage business and action and for plotting camera takes. Then it should be rehearsed with full camera crew and technical staff.

b. Nothing is more exasperating in watching a "how to" program than to be told some detail and not to be able to see it. The program must be rehearsed for the effectiveness of showing details. Many sequences may have to be rehearsed again and again, trying new

stage placement and camera angles to get results. "How to" telecasts are no off-the-cuff productions.

5. Lighting.
   a. Light men have their toughest assignment in lighting sets for demonstration programs because of the instantaneous nature of television.
   b. Close-up camera work for detail requires one type of lighting, long shots another.
   c. The job the light man does will reflect in the picture quality of the television show.

Television—The "How-To" Medium

Television is the perfect "how to" medium. Only through the spoken word with its visual complement can everything be adequately explained to an audience, especially when that audience is in the home. Through television, every woman can have the personal advice and assistance of the world's greatest chefs, the nation's fashion authorities and beauticians in the privacy of her home. Through television every man will be able to keep abreast of current developments in his profession or trade.

Television is undoubtedly a most efficient adult educational and industrial training medium.

XV

Televising Fashions

FASHIONS are a challenge to television and the worlds of style and beauty eagerly await the chance to parade their creations before the television camera. How then, can the intimate display window of the living room receiver-screen satisfactorily show the cut of a skirt, a screen star's hair-do, the luxury of furs or a cosmetic jar's magic promise of beauty? Radio has never been able to effectively sell style but television with its added sight to sound should make the lady from Dubuque as fashion conscious as diners at Pierre's.

The experimenting done with fashions at WRGB has given some answers to the complex and dramatic job of televising style shows, fashions in hairdos and beauty care. The experience gained in television techniques forecasts the need of mood music, effective settings and engaging models to show off fabrics, cosmetics, smart styling and department store merchandise. The producer has the ingenious job of adapting slick magazine eye-appeal and phrase-turning with the glamour of the salon style show, and of mixing these with camera techniques to come up with effective fashion programs which collect on the selling power of television. It is not an easy task.

The First Style Show

The first style telecast at Schenectady, a Winter Sports Style Show (Jan. 29, 1940) put on by the Wallace Department Store, capitalized on the television crowning of the Queen of the Winter Sports Carnival. The fashion show became part of the pageantry of the occasion. An off-camera voice commented on the styles as the cameras caught close-ups of various models—everything from skates to ski suits, from furs to evening gowns. The appeal of such a setting added drama to clothes and accessories, which were carefully selected to appeal to carnival party-goers. The models, department store personnel, were rehearsed to know when they were on camera, and to show off style so that their actions fitted the stylist's comments.

Department Store Fashion Series

A series of television style shows was put on by local Schenectady merchants during 1942. The H. S. Barney Department Store started out with two fashion programs designed to show what the home dressmaker can do with pattern, shears, and fabrics. The first program (March 3, 1942) emphasized the pattern—not how to use it but what can be done with it. As the stylist went to cut the material according to a selected pattern, a striking girl or woman modeling the finished garment seemed to step through the fabric. This was accomplished by dissolving the picture which was held by one camera through the picture sequence held by the camera covering the stylist. In some cases twin models appeared, showing how the same basic pattern could be used for a variety of garments and with a variety of fabrics.

The second Barney style show (April 6, 1943) over WRGB emphasized designing and fitting. The stage setting was a fashion workshop. The scene opened with a view of the stylist pinning and draping fabric on a dressmaker's dummy, while pointing out the choice of the tweed for the suit, its cost, the number of yards required and the style of the jacket. Here again a model dressed in the finished suit or street dress or negligee stepped through the dummy to parade before the cameras. Long shots were used to establish the garment; close-ups to show details. Two sets were used for this style show—one the workshop; the other, a fashion salon.

Cosmetics and Coats

Cosmetics, coats, and children's clothes were collected together into a *Fashion Revue* (May 8,

A picture-frame entrance and ramp were used to stage this style show at WRGB.

1942). The same models were used to demonstrate make-up hints and to display fur coats. In some instances, correct placement of rouge and the application of powder and eye shadow were explained right in front of the camera. Another camera caught a model having her mouth made up. These same models slipped into fur jackets or full length coats. Several children got into the picture wearing the latest in school clothes. The attempt was at informality, though the models (non-professionals) were self-conscious and stiff. The association of make-up and fur jackets was not visually harmonious, even though the camera coverage was adequate and the children seemed completely out of place. The telecast lacked unity (story sequence) and dramatic setting.

Importance of the Model

The importance of the model was emphasized in a *Back to School Fashions* (Sept. 11, 1942) show. The young models from plaid-skirted primary-graders to campus-clothed seventeen's were real. They enjoyed displaying their clothes and the home audience evidently enjoyed the style show, too. One woman wrote in, "The saucy little flip of the jacket tail was much appreciated."

A blackboard-and-slate atmosphere keynoted the show, staged as a back-to-school gathering of children—even the school bell was part of the scene. Then as children renewed old acquaintances, the models themselves pointed up the style notes of their clothes. The cameras, two were used, held trios in long shots and close-ups, and slides flashed prices to televiewers. This eliminated any oral mention of costs. Such a show must be rehearsed so that each model will know when she's on camera, where she's to stand, and how she is to display hat, shoes or dress.

The Model

Television is an intimate medium, therefore the model must be friendly, gracious, and natural. She should be a person whom the viewer can easily imagine to be herself, one who can wear smart clothes the way every woman imagines she does. It was found that the actress-model who can look charming while talking and walking, while throwing off a jacket or jamming a hat on her curls, is the type of model who will help television to become the nation's style window.

Showing a model from tip to toe gets over an impression of silhouette and line. Let the camera move from hat to shoes for close-ups of style, workmanship and detail. Quality of fabric, however, is lost in the television camera since television doesn't distinguish between hand-loomed wools and the wool-and-rayon copy. By blending style, staging and mood music into a harmonious picture, the impression of quality and color can be conveyed to the home audience.

Fashions within a Play

Making the style show part of a play calls for an inventive producer, a fashion expert and an ingenious dramatist, otherwise style or play will take the center of the stage or both be lost in an incoherent maze. WRGB's style-play *The First Time I Saw You* by Charles Wilde (Feb. 18, 1944), provided a highly original mystery-comedy for the Imperial Stores' style show but the producer failed on both factors of the show. Interest was centered in the characters rather than on sharing interest with the models displaying fashions. The plot of the story was laid in a dress salon and the modeling of styles was worked in as part of the play. The opening shot was a close-up of a model, backed by softly played music (*Hungarian Rhapsody*). Then the title slides were brought up in a half-lap dissolve over the close-up of the girl who was held as a shadowy background on the screen through the title sequence and mood music. The models were nonprofessional talent and were rather awkward when they became conscious of being on camera and the problem of make-up was overlooked until the show was on the air.

Hairdos and Cosmetics

One of the first beauty telecasts at WRGB was a hair style demonstration by Leon of London (Sept. 8, 1940). Two important facts were learned from this telecast. The model's black hair faded into the hairdresser's dark coat so that on front view close-ups the details of the combing were lost. On profile close-ups, the styling of the hairdo was lost because of lack of texture contrast in the girl's hair. Mood lighting would have corrected this.

When a Pond's beauty advisor demonstrated *The Right and Wrong Way of Charm* (Sept. 7, 1943),

the model was carefully lighted so that the home audience could see every step in the art of proper make-up. The beautician worked with charts and jars, while she pointed out some do's and don't's of personality make-up. Slides were made of the different type faces; other slides showed the cheek area where rouge should be applied. These slides were cut into the telecast on cue. The dramatic close of the beauty session was the actual making up of the model. The result should have sold every looker-in on the product (Pond's cosmetics).

The Living Ad

Perhaps the most successful style presentation at WRGB was the telecast put on in cooperation with the Albany *Times-Union* and the W. M. Whitney Department Store (Nov. 5, 1943). An ad which appeared in the paper had been photographed and a film slide made. The slide, showing a close-up of the ad, was cut in on the air, then a model wearing the exact fur jacket and accessories, in the exact pose, was dissolved in through the ad. An off-camera voice told the style story, as the model walked about, and removed the fur jacket to display the dress she was wearing. In addition, her hat, gloves, and shoes came in for camera close-ups.

Selling Style by Television

These fashion telecasts only scratch the surface of the job television can do to sell style to America. Through television the woman at home can see what stores are featuring; what smart women are wearing.

Many department stores have experimented in televising fashions to be ready for full scale television schedules. Probably most department stores will use their own video equipment for intra-store telecasting to lure buyers to upper floors. The General Electric System for department stores is called Intra-tel. Department store style shows and merchandise programs will originate in the store's own television studio as remote pickups for telecasting over local or network stations.

The purveyor of fashion will want to spotlight style, fabric, and workmanship to intrigue the home viewers, while the producer's job will be to give dramatic setting to the jewel, perfume, or garment, and then to give camera views of it from every angle, emphasizing design, cut or price.

Staging the Style Show

Disregarding hard and fast rules, basic fashion programs for television should combine these elements:

1. Establishing the Story.
   - **a**. What fashions are to be shown?
   - **b**. What items are to be emphasized?
   - **c**. How shall the fashions be staged?
     - c-1. Style show.
     - c-2. Demonstration.
     - c-3. Display.
     - c-4. Part of a play.

2. Setting the Story.
   - **a**. Style shows like all dramatic telecasts require theme and story sequence. Spring styles can be shown in an Easter atmosphere either simple or extravagantly lavish. It is wise to include on any one telecast only related fashions. The eye can comprehend only one thing at a time.
   - **b**. Demonstrations should be intriguing and amusing. Introduce humor, to keep the audience interested while some detail is worked out. The eye will follow the action, the humor will hold interest.
   - **c**. Displays must be eye-arresting and dramatic. Action or movement must be introduced. This is relatively easy in television since the camera is movable or the display stage can be made movable. Jewels can be displayed on hand or ears.
   - **d**. The dramatic elements of the play should give tempo and pace to the style show.
   - **e**. Emphasize workmanship and design symbolically.
     - e-1. Shears, fabric and thread painted on a stylized background immediately suggest the couturier, making an ideal setting to model dressmaker suits.
     - e-2. Looms and yarns on stage suggest quality woolens and tweeds.
   - **f**. Style notes may be given by
     - f-1. An off-camera stylist.
     - f-2. An on-camera couturier or stylist or master of ceremonies.
     - f-3. The model.
     - f-4. Slides.

3. Staging Fashions.

a. Select models who are attractive on television.

a-1. Choose friendly, attractive people. Remember showing fashions, whether lounging robes or luggage, should convey the spirit of sharing a new find with a friend.

a-2. The super-sophisticated classic model might be used for stylized settings.

a-3. Be sure to test your models on camera. They should be attractive. Sometimes, peaches and cream can look buxom on camera; curves can be squashed down into pleasingly plump lines or a model with a face which has a bony framework may appear horsefaced.

a-4. A model who can talk and walk is preferable to one who can only pose. Static pictures in television do not sell style.

a-5. Watch make-up and hairdo. The model must be a setting for style.

a-6. Shoes and hose require trim legs to be attractive.

b. Choose a background that helps to sell style.

b-1. Simple backgrounds that draw the eye to the fashion detail are best. The producer must remember that the home audience is seeing the picture on a 7½ by 10-inch direct view screen or on an 18 by 24-inch projection screen.

b-2. The background should reflect the mood of the fashion. Gay for party clothes. Winter scene for furs. A nursery for baby things. A graceful well-manicured hand for jewels.

b-3. Accessories can suggest richness to convey quality of fabric, workmanship, and design.

b-4. Gray scale values of fabrics and background (remember we are working in black and white photography) must contrast vividly on camera so that fashion details can be easily seen.

c. Mood music gives atmosphere.

c-1. Music should be used to develop the background setting. Dance music for party clothes, rich melodies for quality. Lullabies for babies.

c-2. Music should be used as a supplement to fashions. A swirling hairdo can be displayed to advantage to the swaying tempo of a tango.

c-3. Music can be used as transitions to introduce various forms of fashion such as beauty in cosmetics to the modeling of a fur-trimmed garnet suit.

4. Planning Camera Shots.

a. Apply the basic rules of unity and rhythm. Establish background, mood and fashion as soon as possible. Viewers should know that it is milady's shoes that are the center of interest, if it is shoes. That the model is pretty is of secondary interest.

b. Long shots give only impressions of fashion. Details are lost in group or background.

c. Close-ups must be used for detail. People want to see and to have their attention called to details. Models must be rehearsed to coincide actions with the commentary or, if the model is showing the fashion, to casually call attention to pintucking or peplum.

d. Show your model in a succession of close-up views, starting with her hat and progressing to gown, gloves, bag, and shoes, if these items are on display. Otherwise, choose only those close-ups which tell your fashion story.

5. Rehearsals.

a. Models must be rehearsed:

a-1. To know when they are on camera.

a-2. To know where to stand.

a-3. To know how to hold articles for camera close-ups.

a-4. To show off style.

a-5. To take off the fur wrap and show how it looks thrown over the shoulders.

a-6. To move about and, if desired, to talk intimately and engagingly as if confiding a style secret.

b. Rehearse cast and camera crew.
b-1. To know camera routine.
b-2. For timing of close-ups. Close-ups show styling.

6. Department Store Television Systems (G. E.'s Intra-tel).

a. Department stores will probably be equipped with their own television systems to show sale features and styles to street floor and window display traffic to lure buyers to upper floors.

b. Department store programs may originate in the store's own studio as remote pick-ups by local or network television stations.

Fashions and Television

Fashions in fabrics, cosmetics, smart styling and department store merchandise will take the spotlight in television but only when the program producer has learned to present fashions dramatically. The level of people's thinking has been stepped up through the magic of radio. The level of living standards can be raised through the display window of television. Fashions can set the pace.

XVI

Puppets

Puppets have a great future in television—not that they will replace live actors but because the camera brings the audience right up to the puppets so they can be seen and enjoyed. Not only children, with whom puppets are a great favorite, but adults also enjoy these caricatures of humans. They can laugh unrestrained at their antics.

Puppets can be used as individual programs, as part of a variety telecast, in commercials or as introductions to a personality. Their use is as varied as their personalities. Joe Owens, a General Electric industrial control engineer, has been designing puppets for many years—they are his hobby and he has a family of over 50. Actually his puppets are marionettes, according to the accepted show business understanding of the terms. Puppets are manipulated by understage hand maneuvering; marionettes by strings from overhead. Nevertheless, Joe Owens's figures, although manipulated by overhead strings, are called puppets at Schenectady.

Special Puppet Stage

Puppets have been a part of WRGB programming since the television station has been in operation. They were first used as part of playlets on children's programs. A special platform was built, 4 feet high, about 6 feet long and 3 feet wide. A back brace about 4 feet high to which a back drop can be attached is fastened to the platform. This also affords support for the operators who work on a second similar platform, about 4½ feet high, braced against the puppet platform. The whole equipment is demountable for easy storage.

Puppets As Story Tellers

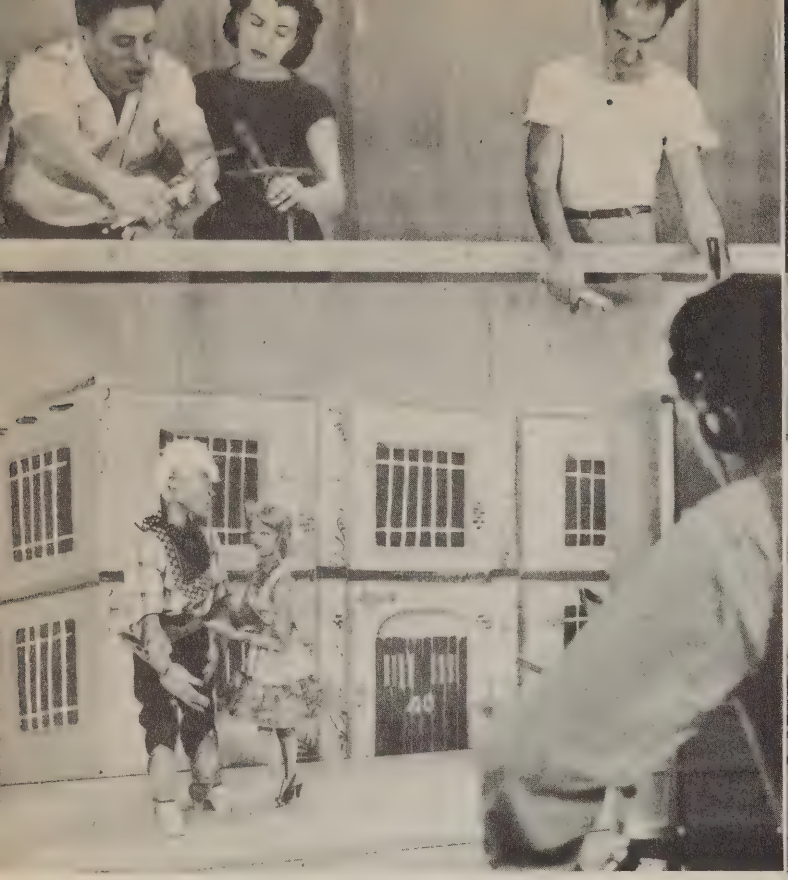
Cameras can be dollied right up to the platform, to get excellent close-ups of the puppets. They can be shot from a front or side view. In the WRGB Christmas play (Dec. 22, 1940), the Negro puppet preacher, Parson Brown, made his bow to televiewers and was a huge success. Parson Brown has articulate legs, arms, head and mouth. His actions were synchronized with an off-camera voice, telling a group of children the *Story of Christmas*. Then the cameras dissolved to the puppet stage, where other puppets enacted the story which had been recorded. As the recording was played, the operators put the puppets through their paces, synchronizing motions with the story action. This requires rehearsal and concentration on the part of the puppet operators. The WRGB audience rates the puppet performances as "better than good" entertainment.

The charm of puppet shows is in the synchronizing operation of movement and voice, as well as in the articulation of the figures. When Helen Joseph's Puppets visited Schenectady (Sept. 29, 1940), their appearance on television wasn't too successful. The puppets were operated so rapidly that they were constantly blurred on the receiver screen. This was partially accounted for by lack of back lighting. Miss Joseph had her own puppet stage, which was carefully curtained to cover the puppet operators, giving the studio audience as well as the home audience a stage view of the puppets only. This curtained-in stage made it difficult to spotlight the figures.

The Hep Cats

The glamour girls of WRGB are "The Hep Cats," Joe Owens's personality puppets. Three in number, with complete articulation, even to winking eyes, they win viewers' hearts when they "sing" *Massachusetts* and *Shoo Shoo Baby* to the Andrews Sisters' recordings. (See picture on next page.)

Unless the puppets are fully articulate, that is, have movable mouth and head as well as arms and legs, close-ups spoil the illusion of life; this is true

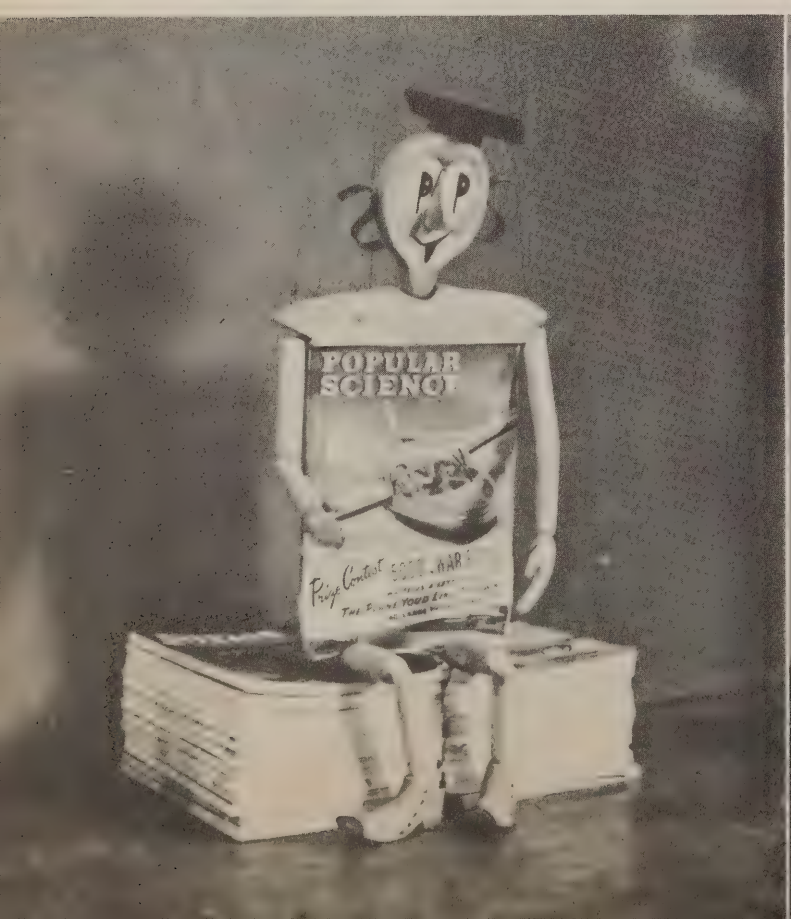


▲ THE marionette show can be as elaborate as the Compton Agency half-hour program for Duz which utilized twelve fully articulated marionettes especially built by Remo Bufano, or it can be . . .

. . . as simple as The Hep Cats who entertain by "harmonizing" on novelty songs. (The novelty songs are popular recordings.) The marionette Hep Cats are generally referred to as puppets at WRGB.

HOW a puppet is used as a salesman of a magazine is effectively demonstrated by "Mr." Popular Science who opens his midriff to tell about his Home Hints department. ▼

RECORDED music can be turned into a visual show by such puppet characters as The Lonesome Cowboy. He can entertain in a hillbilly spot or be starred in a commercial. ▼



with Joe Owens's "The Lonesome Cowboy" who sheds tears of Grade A milk. His doleful "singing" of *I'm Dreaming Tonight of My Blue Eyes* can be spoiled if the figure is held on too large a close-up where viewers can see that his mouth is not moving. In long shots, his banjo playing and body movements give sufficient action to intrigue the home audience. (See picture on opposite page.)

Another puppet favorite with the Schenectady audience is Joe Owens's "The Puppetones," a seven-piece Negro band including a piano player, banjoist, drummer, xylophonist, trumpeter, slide trombonist and clarinetist. The instruments are made to scale.

Camera coverage of "The Puppetones" is the same as shooting any band number, except that the added attraction of seeing the puppets "play" their instruments holds audience attention more easily. The program producer rehearses the act to coordinate camera close-ups of the drummer, clarinetist or pianist on solo parts just as he would in telecasting a live orchestra. Because the puppets are staged on a 4-foot high platform, camera movements are easier, the cameras being dollied in for close-ups.

Puppets in Commercials

Puppets have been used for commercial shows. The Lonesome Cowboy and his pals did a Royal Crown Cola and a Wildroot Cream-Oil commercial in a test series by the BBD&O advertising agency and rated almost as well as their live actor counterparts. (See Chapter XXIV, pages 123 and 124; also Chapter XXXIV, page 206).

The Saga of Steve Cranberry, a soap opera romance, was visually acted by Remo Bufano marionettes. The Bufano marionettes were specially made for this Compton Advertising Agency skit, which was produced to test viewer reaction to puppet-played daytime serials. The half-hour show called for complicated puppet synchronizing action with the recorded story which had been cut in New York with top-flight actors. Twelve fully articulate marionettes were used in the story, four of them duplicate figures to show changes in appearance. The Duz commercial, part of the skit, washed and scrubbed three of the Western characters in the magic of a Duz bubble cloud. Steve Cranberry, the hero, turned into a centaur to romp off with his beloved at the camera curtain.

The marionette operators were rehearsed by the agency in New York with the recorded story before bringing the show to Schenectady. This meant that the operators were completely familiar with the marionette actions; the WRGB producer had one run-through rehearsal to become familiar with the story and to plot camera takes on his script. He had a full camera crew and technical crew rehearsal, and the show was telecast the same night. The home audience rated the show "excellent."

The Compton agency had previously inquired about popular types of television shows. Finding puppets were particularly well received, they engaged Bufano to make the marionettes for the skit which took him about three months. A special puppet stage was built by WRGB for *The Saga of Steve Cranberry* from agency plans (see picture, page 88). Since so many puppet characters were involved, the operators required the equivalent of two puppet stages to work on. A painted back drop, showing a western jail and cactus plants gave locale background and the marionettes were dressed in cowboy and sheriff outfits.

Puppets in Special Roles

Puppets can be used effectively to introduce personalities. When Henry Scott, the mittens-on-the-keys piano virtuoso, was at Schenectady, he was introduced by Joe Owens's mad pianist. The wild-wigged puppet playing on his miniature piano was held in close-up by one camera, with Scott furnishing the off-camera capriccio. Slides were then dissolved in over the puppet pianist, introducing Scott. After the slide introduction, Scott himself was dissolved in over the puppet to go on with his piano cut-ups.

Parson Brown frequently puts in an appearance before the television cameras to introduce variety acts, giving them a church social background, or to welcome *The Hep Cats.* An off-camera announcer is Parson Brown's voice.

In the "Home Hints" from *Popular Science* series, a special puppet made by Joe Owens, seemingly gives advice to the homemaker on how to fix leaky faucets or make cup cakes without butter. (See picture on opposite page; also page 75.)

School Children Puppets

The sixth grade children of Yates School in Schenectady made puppets (hand operated) for

their own version of *Rumpelstiltskin,* which was telecast over WRGB (June 25, 1944). The children themselves built the stage, operated the puppets, supplied the voices, rolled up the curtain, handled sound effects and changed scenery, as well as writing the script. The nine-year-old voice of Rumpelstiltskin stole the show with his sinister *Eee, Eee, ho, ho, she'll never guess my name.* The puppets were played on the apron of the miniature stage, giving wonderful depth of focus to the castle room and wooded glen where the story action took place, and achieving excellent three-dimensional effects.

Other Joe Owens puppets which are popular with the television audience include *The Three Trees* and *The Little Teapot.* These skits indicate that puppets need not necessarily be people as they can be used to give life to inanimate objects. The trees are built so that they can sway and bend, and the Little Teapot, which looks like a regular teapot, has all the charm and engaging personality of a chubby cherub. It can dance about on articulate legs and it can be tipped, pouring tea into a cup.

Producing Puppet Shows

A brief review of puppet and marionette shows at WRGB indicates:

1. Types of Puppets Available at Schenectady.
   - **a.** Joe Owens's stable—Some 50 characters and several dozen acts are available, the most popular of which are The Hep Cats, The Puppetones (a seven-piece Negro band) and The Little Teapot.
   - **b.** Touring Companies—Helen Joseph's puppets, for instance, played a one night engagement.
   - **c.** Remo Bufano's marionettes. The cast of figures made especially for *The Saga of Steve Cranberry,* a soap opera episode.
   - **d.** Yates School puppets. These were made by sixth grade children for their version of *Rumpelstiltskin.*

2. Use of Puppets in Television.
   - **a.** Entertainment.
     - a-1. As part of a variety program.
       For adults.
       For children.
     - a-2. In a feature spot of their own.
     - a-3. In a drama sequence.
       The Saga of Steve Cranberry.
   - **b.** Commercials.
     - b-1. Comic skits.
       Royal Crown Cola cowboy.
     - b-2. Drama sequence.
       The Saga of Steve Cranberry.
   - **c.** Informative.
     - c-1. To intrigue and hold interest in "how to" telecasts (Mr. Popular Science puppet).
   - **d.** To introduce personalities.
     - d-1. Sets the mood (Joe Owens's Mad Musician as an opening to Henry Scott, hilarious piano virtuoso).
     - d-2. Parson Brown to introduce The Hep Cats.

3. Rehearsal of Puppet Show.
   - **a.** Regular puppet and marionette acts.
     - a-1. Routines are set by the puppeteers.
     - a-2. Such acts are rehearsed with camera crews in a similar manner to vaudeville acts—a run-through for camera plotting and then a full camera crew and technical staff rehearsal.
     - a-3. Time required for rehearsal depends upon the puppet sketch, its length and the production job involved.
   - **b.** Specially cast puppet routines.
     - b-1. Should be rehearsed with puppeteer to synchronize puppet actions with script.
     - b-2. Should be rehearsed with camera crew just as any other similar type program needs rehearsal. How much rehearsal depends upon the production job.

The Future of Puppets in Television

Puppets can be to television what cartoons are to motion pictures. The charm and appeal of puppets can contribute to the effectiveness of the television commercial, as well as to entertainment and informative programs. The producer needs only turn his imagination loose to find an infinite number of visual possibilities for this much neglected stage character.

XVII

Televising Quizzes and Games

EXPERIMENTING with quiz and game telecasts has shown that spontaneous unrehearsed programs like radio's *Truth or Consequences* which seem like television naturals are not easy to produce. Often the results fall short of visual entertainment. Quizzes and games can be visual fun when they are planned and staged for the television camera. An engaging master of ceremonies or a lively participant who can keep the game moving adds that spark needed to hold audience interest.

The producer should plan the quiz or game format, camera rehearse the program's opening, any visual effects to be used, and the show's closing. Contestants can be given a run-through rehearsal with similar questions to familiarize them with the show's routine.

Word Quizzes

One of the first quizzes tried at WRGB was a *Spelling Bee* (Feb. 26, 1940) with a team of husbands vs. wives. The home viewer also was given an opportunity to test his own spelling. The quiz master, in giving a word to a contestant, first pronounced it and then took a moment to define it. Slides were made of the words and were shown on the air after the quiz master had defined the word and before the contestant attempted to spell it. Close-ups of the contestants were cut in as each tried spelling his word. Such a telecast is amusing for a short period and can hold added interest if the contestants are notables.

Staging the Quiz

In an attempt to develop a quiz technique, a series called *How Do You Pronounce It?* presented in cooperation with Russell Sage Girls College, was telecast with a variety of set-ups both in the number of participants, and in seating arrangements. An authority on pronunciation, a referee–quiz master and two teams of three contestants each were included in the first program (April 12, 1942). The authority and the referee were seated in the center of a semicircle with a team on each side. A blackboard was set up in such a manner as to be visible to the contestants and to one camera. A contestant on one team spelled out a word to be pronounced and an announcer wrote it on the blackboard. A contestant on the opposing team tried to pronounce it. The referee then gave the word to the authority who ruled on the pronunciation. Cameramen sometimes had difficulty getting the speaker in the picture, especially when the sessions developed into lively discussions over words.

Camera Coverage

Three cameras were used to cover the *How Do You Pronounce It?* quiz. One camera held the blackboard on close-ups so that home viewers could see the word written. The second and third cameras covered the authorities and contestants, panning from one to the other on close-up or long shots according to the producer's directions, trying to get people as they spoke.

Revised Set-Up

In later *How Do You Pronounce It?* quizzes, which televiewers found enjoyable, one team was dropped and only three contestants participated giving a more individual interest-appeal. For the most satisfactory camera coverage it was found that the authority and master of ceremonies could be seated at right angles to the three contestants, forming a loose L. Cameras then could dolly in for close-ups, and with the one camera being able to "Chinese" (the complete camera head and boom turned in a circle on the dolly) excellent shots of both authorities and contestants could be obtained. This arrangement takes careful camera planning since opening

▲ **BRIDGE, or card playing, has never become a radio feature but with television making it possible for the home audience to see the cards being played, it will be as thrilling as a soap opera to bridge fans.**

COL. Lemuel Q. Stoopnagle conducted a photoquiz at WRGB which proved how visual and amusing a quiz can be. At this point in the program, the Colonel is "proving" that you wouldn't know him from Adam. ▼

and occasional long shots are needed to establish and to remind viewers of the group as a whole. Otherwise a camera might get into the other's lens field. It was also found that the words could be seen clearer by the home audience when printed on slides than when written on a blackboard. Slides, therefore, were used on the program.

Photoquiz

In the first *Look Photoquiz* (Nov. 12, 1943), contestants were given copies of the magazine so they could see the feature at rehearsal. To be sure they had not seen the issue used on the telecast, advanced copies of the new magazine were obtained and handed out at the opening of the program. Film slides were made of the photographs in the feature and were shown as the quiz master put a question to one or another of the contestants. Six contestants were used. They sat at tables forming a wide V with the quiz master at the center point allowing easy camera coverage, for close-ups and panning.

The *Look Photoquiz* with Col. Stoopnagle (June 29, 1944) was not based on a specific magazine feature. A script involving various visual questions had been written. For example the contestants were asked to identify certain dances. An attractive actress in dance costume joined the Colonel for a few minutes of jitterbugging, Black Bottom and tango. The cameras held the couple in long shot and close-up for the home viewers to see. Only once did the cameramen experience difficulty in covering the cavorting couple and that was when the Colonel danced right into a floor light. (See picture on page 92.)

Families as Contestants

Two Schenectady families were selected as contestants—one, a father, mother, and son; the other, a father, mother, and daughter. They were seated to the right of the Colonel who walked about as he worked. One family was on a raised platform, the other just below. This arrangement allowed both families to be seen. The studio audience sat on bleachers just outside the area required for movement of the camera. Cameras were swung to catch their reactions and to add atmosphere to the quiz. All three studio cameras were used, one concentrating on the Colonel, one on the contestants and one on the scoreboard. The quiz opened with a shot of the Colonel's hands playing *I Love Coffee, I Love Tea* on an organ. Title slides and credits were dissolved in over the musical background, fading into an announcer in the studio who introduced the Colonel to the contestants. This gave the Colonel time to get from the organ into position before the camera.

Visual Questions

Many of the questions on the *Look Photoquiz* involved the identification of enlarged photographs. Duplicate photographs were made; one set on an easel, to the Colonel's left, and covered by a camera for telecasting, and the second on an easel just off camera and directly in front of the contestants. A stage hand changed the pictures in unison. Other visual quiz questions were a dog parade with such pedigree pups as a Bedlington, Boxer, English Sheep dog and a Kerry Blue to be identified, and charade skits representing titles of books. The charades, some in pantomime, were performed by actors in costume who came on stage on cue.

The cameras were cut frequently to the score board to keep the home audience informed as to the relative standing of the teams. Large digits in white on black cards with punched holes made it easy to keep the total score always visible. Television being show business, one unforeseen event occurred. The score was tied after the final question. The Colonel was hard put to it for a moment and after a few seconds of ad libbing came up with one of his nonsense questions. The prize-winning family took the War Bond.

The Colonel, who was making his first appearance on television, used notes for the routine of the show. He was rehearsed with stooge contestants the evening previous to the telecast and the day of the telecast, about eight hours in all. The *Look Photoquiz* with Colonel Stoopnagle was rated "excellent" by the television audience.

The Game

Visual quizzes can be fun on television as shown by Colonel Stoopnagle. Games too can be amusing to watch, but again it takes personalities to keep the home audience interested. *The Game,* a version of charades, was enjoyed more by viewers when the contestants entered the spirit of the pantomime acting out the words in the quotations. It was also found that the audience enjoyed the telecast more when they knew the quotations so slides made of the familiar phrases were shown televiewers as the con-

testant was handed his assignment. The idea of *The Game* is for a member of a team to act in pantomime individual words of a phrase so that his teammates can guess the words and the quotation quickly. The wide V seating arrangement was used, with the contestant cavorting in the center space. This is not too satisfactory since it limits camera area and makes it difficult to get close-ups of players near the point of the V. Televiewers rated *The Game* as "excellent."

Two attempts to televise a Cross Word Puzzle quiz (May 26, 1943 and Nov. 12, 1943) involved the studio audience and a group of contestants. For both programs, a huge cross word puzzle form was drawn and tacked on a flat. A master of ceremonies called out definitions, the answers were supplied by the contestants or the studio audience, after being acknowledged by the master of ceremonies. Three cameras were used. One focused on the master of ceremonies and the cross word puzzle form, one on the contestants and the third on the studio audience. Cross-cutting between the groups and the puzzle as it was solved gave movement to the telecast. Consensus of opinion was: "too slow, rather boring—OK but takes too much time and is very monotonous." The cross word puzzle, if any producer is interested, still remains to be presented effectively on television.

Card Games

As far back as Jan. 29, 1942, the staff at WRGB has tried to teach card games by television. *How to Play Bonanza* involved cards in a poker hand layout. Too much detail must be shown, requiring close audience concentration and the camera problem of showing detail slows up the game action.

On the program *How to Play Gin Rummy* (Feb. 19, 1942), one camera was boomed up and focused down on the card table, to catch the cards as played. A second camera was used for close-ups of the two players who explained the game as they played. It wasn't television fun.

Undaunted, the staff tried another telecast with cards, this time solitaire. Starting with a regular deck of cards the players put them through a card stretcher (a common clothes wringer) having them come out jumbo size. The demonstration of solitaire was explained with the large cards. This helped televiewers to see the suits clearly and easily. It was a help—but was still not good television.

Bridge Demonstration

Jumbo cards were again used when a bridge demonstration was telecast with Mr. and Mrs. William McKenney and Mr. and Mrs. Arthur Sobel, the noted bridge authorities, playing the hands. The hands were laid out with the large cards pinned to a set flat so that the camera could get easy shots. Unfortunately, the cards were so large that the four-hand layout had to be held on long shots which made it difficult to see the suits and cards. Only part of a hand could be shown on close-ups. As the experts made plays, a commentator showed the moves with the jumbo cards. Even the camera coverage on close-ups was unsatisfactory partly because the cameraman did not play bridge and was not familiar with cards which slowed down panning to the suits and cards indicated. A camera covered the experts at the table which made it interesting to televiewers to see people whose names were so familiar to them. It was difficult to distinguish the regular cards on the receiver. The program, arranged in cooperation with the American Playing Card manufacturers, was partially successful—some thought it was well worked out, while others felt they would never learn bridge from such a lesson. (See picture on page 92.)

Checkers to Musical Chairs

Scardino and his Magnetic Checkerboard was a good idea. Cameras could dolly right in for close-ups and every play could be seen clearly. Checkers, though, are rather static and slow paced. The game gets boring after the novelty wears off of watching checkers stick to the squares as they are moved about on an upright board.

Using a game with movement and visual effects attracts televiewer interest but it must be sufficiently intriguing in its production treatment to hold that interest. *Take Sides,* a telecast involving a picture puzzle and teams of boys and girls (Aug. 23, 1940), started out with a bang but ended with viewers bored or puzzled. The object of the game was to put together a giant jigsaw puzzle. The program opened with a close-up view of a landscape scene. Then as the camera was slowly dollied back, the scene fell into pieces. The teams then took turns, on a time basis, putting it together again.

Musical Chairs and *Fine or Superfine,* played as part of a New Year's party (Dec. 30, 1943) with studio participants, was visually enjoyable for a

brief period. The producer and the cameramen missed amusing incidents because of the ad-lib nature of the production which was unplanned. A planned routine and rehearsal with participants would have prepared both the players and the camera crew to anticipate action.

Televising the Quiz or Game

Quiz programs, so popular on radio, need an ingenious master of ceremonies to inject visual fun into the television presentations, and to keep the interest high. Adding up the WRGB score shows these basic techniques:

1. Choosing the Quiz or Game.
   - a. Select them on the basis of visual appeal.
   - b. Get a personality to be master of ceremonies or to participate in the program.
   - c. Plan every program detail visually.

2. Quizzes and games televised at WRGB.
   - a. The Spelling Bee.
     - a-1. Presented with two teams of contestants and a quizmaster.
     - a-2. Words shown on slides to the home audience.
   - b. How Do You Pronounce It?
     - b-1. Presented first with two teams, an expert and a master of ceremonies. The words were written on a blackboard.
     - b-2. Presented later with individuals, an expert and a master of ceremonies. Slides were made of the words and cut into the program sequence on cue.
   - c. Photoquiz.
     - c-1. The producer used only visual questions. For example: Identify photographs, titles of books from charades, dances from a couple performing steps and breed of dogs from paraded animals.
     - c-2. The producer staged the visual questions so that the televiewer could quiz himself before the contestant answered.
   - d. The Game.
     - d-1. Two teams of three contestants each participated in *The Game*. Contestants acted out in pantomime, words in familiar quotations, for teammates to guess.
     - d-2. Slides or printed placards can be used to show the quotations to the home audience. Placards can be set on an easel out of participants' view and can be covered by a close-up camera.
   - e. Cross Word Puzzle.
     - e-1. The cross word puzzle offered very little visual movement.
     - e-2. Solving a cross word puzzle is too slow to hold audience attention.
   - f. Card Games.
     - f-1. Both regular and jumbo size cards have been used in telecasts. Games tried include: 1) gin rummy, 2) bridge, and 3) solitaire.
     - f-2. No satisfactory production method has been evolved to teach card games via television (see body of chapter).

3. Contestants or Players.
   - a. Personalities, whether experts or noted people, make better programs and have the added visual curiosity appeal for the audience.
   - b. Pre-selected participants assure a better program.
     - b-1. For the ad lib quiz, pre-selecting the participants allows the producer to rehearse the contestants in the planned routine of the game or quiz and gives the producer and cameramen a chance to became familiar with participants' personalities.
     - b-2. For a quiz or game, pre-selecting the participants gives the producer the opportunity to rehearse the program with full camera crew. This does not mean that the element of chance is eliminated from the quiz or game but that the general procedure is camera-planned.
   - c. Audience participation requires a skilled master of ceremonies and a capable off-the-cuff producer.
     - c-1. Random selection of contestants is a problem.
     - c-2. If used, have game or quiz details cam-

era rehearsed so that soundman, cameramen and technical staff as well as the producer will know what is coming next and can concentrate on getting the contestants.

4. Staging the Quiz or Game.
   a. Trial and error will teach producers the best set-up for contestants and visual props, working with available camera and studio equipment.
   b. The wide open inverted V seating arrangement has been found adequate for long shots to establish the group and for close-up camera work to get individual reactions. The quiz master is seated at the point of the V, with the teams on either side of him.
   c. The semicircle arrangement is usually too spread out to establish the group in long shots.
   d. The loose "L" arrangement (contestants and quiz master at right angles to each other) offers many camera advantages. It can be used effectively with groups of three or five people.
   e. For visual quizzes or stunts the contestants can be seated to the right of the playing area, leaving the master of ceremonies free to move about or to call participants to him to go through the assigned antics.
   f. Use visual properties, such as blackboards, charts, blow-ups of games or placards held on easels.
      f-1. If necessary for participant to see the visual effects: place them so as not to interfere with camera movements. With a large group of participants this is difficult. In this case, make duplicate sets of props, one for participants to see, so placed as not to interfere with camera maneuvering; the other set, placed to the side or off the game set, to be covered by a special camera. Only one set must be in the camera picture.
      f-2. If not necessary for participant to see the visual effects set them up near game stage so as not to interfere with cameras covering participants. Use a separate camera, where practical, for close-up shots of visual props.
   g. Use neutral stage set backgrounds. Eye attention must be directed to the game or contestants.

Quizzes and Games Challenge to Television Producer

Quizzes and games which seem so simple to present on television are a challenge to the producer. Some day, however, an ingenious producer will find a visual format that is effective.

XVIII

Vaudeville Acts, Monologists, and Magicians

Some vaudeville acts, magicians and monologists are sufficiently intriguing visually to rate feature billing on the television schedule. We are not thinking of such artists as Cornelia Otis Skinner, Ruth Draper or Angna Enters but of closing-curtain acts that can be built into eye-catching television shows. Such telecasts can be used effectively as fill-in programs to hold the audience.

The producer must not get the idea that vaudeville shows are easy to televise. They are not. They require all the planning, dramatic build-up and camera rehearsal regularly spent on any entertainment spot. Magicians, particularly, must be camera rehearsed for the effectiveness of their tricks on the home receiver.

Vaudeville Acts

Every trick of television should be utilized to give movement and mood to vaudeville spots. Such acts as The Two Jacks, novelty acrobats; Putnam & Slate with their nonsensical Fleegpoop routine; Milton Sabotsky, Demon Mathematician, and The Three O'Haras, novelty dancers, are visually entertaining. The Two Jacks, who tumble and lift and somersault, may be amusing for five minutes by themselves but when their act was given a production job they were entertaining for twice that long. Title slides, in this case made with funny figures, were used to introduce the acts. The slides were backed by mood music. Music and slides set the scene and home viewers were ready for the tumblers who were picked up in the studio in a characteristic stance. On one occasion they went into a brief tumbling routine before being introduced; on another, an announcer walked in for a bit of joke swapping before the boys went into their acts. The camera can take excellent medium close-up shots of most of the tumbling and somersaulting but pyramid turns have to be held on long shots which should be brief since the television audience wants close-ups of performers.

It is amazing how clearly Indian club tossing shows up on the small-sized receiver screen. The juggler, if he is sufficiently versatile and works with a variety of props, can be billed for a ten-minute program. The producer, though, should build such an act in picture sequence to a flash finish.

Slapstick Routines

The favorite slapstick routine of Putnam and Slate and their Fleegpoop, intrigues viewers at Schenectady. It is the old vaudeville gag of hauling everything but the kitchen sink out of a trunk before coming up with the fleegpoop carefully wrapped in chamois. Then the boys go into their piano and fleegpoop musical routine which invariably has viewers writing in for more. Before finding the fleegpoop, they go through many antics such as a daisy chain dance, a gun-on-shoulder march and plain rough and tumble stuff. Children love the act. Televising such a show requires well planned camera cuts and good lighting so as to catch every bit of nonsense and to build sequences to a climax.

Putnam and Slate who have been telecast frequently at WRGB vary their routines but somehow end up with the fleegpoop. Their skit, two girls on a skiing trip, has its hilarious moments. (See picture on the next page.)

Singing and Dancing Teams

The comedy singing team can easily be built into a fifteen minute telecast if they use visual props. The Jane Clark–Earl Pudney team went from Beatrice Lilly impersonations to Gaslight weepers, throwing in piano-top antics for comedy relief. Such songs must be sold with gestures and props which

▲ THERE is good visual interest in the typical piano sitting-singing routine, especially when it is staged with a touch of humor.

MAGICIANS are always top visual entertainment. Here is Sandra Landi who combines pulling a rabbit out of a hat with dance routines. ▼

▲ IT is not easy for cameras to follow the Indian clubs but a juggler still rates spot billing on a television-vaudeville show.

COMEDIANS, especially when they have changes of costumes and a great deal of business, will be a television high spot. Putnam & Slate amply demonstrate this. ▼

can make good camera material and add picture variety to the program. (See picture, page 98.)

Jack and Kitty Brady in their novelty act (Jan. 16, 1942) combined simple feats of magic, juggling, balancing and ventriloquism. It was a fast moving telecast, well paced and eye attracting. Comedy routines require split-second timing or else the act falls flat.

The Dancing O'Haras, two sisters and a brother, synchronize their motions with clock-like precision. They are sufficiently versatile to work singles and doubles to permit costume changes so their act can be telecast continuously. One of their dance routines, with feet chained together, is effective but on one occasion the chain was difficult to see on the television receiver. Novelties like this must be rehearsed with costumes and stage background to be sure effects can be seen easily. When a visual gag is missed, there is no punch to the camera shot.

Novelty Acts

When an act has plot and unity of theme, it goes over big. Milton Sabotsky, billed as an Illusionist Extraordinary in the realm of mathematics, performed rare feats of skill in a skit called *Mathemania*. Sabotsky's act was worked out especially for the television camera, and was presented in cooperation with the Metropolitan Television Inc. of New York City.

An act which combined novelty in sight and sound was Don Tranger, the Musical Miracle Man, who has been cited more times than any other individual by "Believe It or Not" Ripley as doing the seemingly impossible in wizardry. Tranger started playing a clarinet. Then he added two trumpets, then another trumpet, playing all four instruments at the same time. He climaxed his act by playing the mouth instruments, whistling a solo and doing a Russian dance all at the same time. The difficulty with televising an act like this is the need of long-shots to hold all the climax action. At present, television is more effective in close-up and medium close-up shots.

The Monologist

Television may prove to be the ideal medium for the monologist, the mimic and the impersonator who has found scant elbow room in radio and night clubs. The intimate aspects of television with its close-ups combine to let people see and enjoy the facial reactions and character delineation which is the stock in trade of the monodrama. Jane Moultrie and Andrea Duncan of the Feagin Drama School of New York have repeatedly been rated "excellent" by home audiences. Children enjoy them, too. The monologists who have appeared at WRGB use their own material or adapt conventional sketches to their own purposes. On one occasion Arline Whipple used such simple costume changes as wearing a hat, putting on gloves or using lorgnettes, simple changes that were made while a title slide announced the next sketch to the home audience. Otherwise the monologists depended upon acting to portray people. Camera sequences of such artists must be dictated by the flow of the performance, but close-ups from every angle to catch every shade of expression must be carefully plotted. Wrong camera cuts can throw an act out the window.

Richard Haydn, radio and movie personality, whose "Professor Carp" character was a night club and radio favorite, made his television bow over WRGB on Dec. 27, 1940, as part of a J. Walter Thompson experimental Shell Oil telecast. He was tops!

The Magician

Magicians are strong television drawing acts and are well worth the time spent in devising background and setting and camera plotting so that every bit of trick business can be seen—but not too graphically to give away the legerdemain. The Great Perkett used a water pouring trick as the running gag to tie-together his act. Some such visual effect is good continuity and can be developed to a climax curtain. Prestidigitators too frequently start with a card trick and end up with a disappearing stunt, each trick completely unrelated to the other, leaving viewers hanging until "The End" slide flashes on. Incidentally, card tricks that depend upon identification of cards are no good for television. Small playing cards can't be seen clearly for easy identification. Sleight of hand card tricks are good.

Be sure your magician is good before you give him spot billing. Poor illusions, crudely done, trick the viewer just as superb legerdemain too rapidly performed leaves the viewer confused. Magicians must learn to work in the television medium. Show them the size of the receiver screen so they will know the area of body action which can be effectively held in

the camera field. The magician will learn to modify his rabbit pulling acts to the medium.

Camera Covers All Action

The Miraculous Marsters demonstrated that prestidigitation can be covered continuously by one camera with his live chick act (March 16, 1944). He showed the home audience a six inch square box, seemingly empty. The scene was held in a medium long shot establishing Marsters, the box and a table. As he pulled the usual "see it's empty" gag by passing a stick through it, the camera was dollied in for a close-up. The camera held the box in close-up all through the trick, while Marsters placed it before him on the table, having shown that the table was solid, put a cloth over the box, made a couple of passes, opened the box and took out two live chicks which peeped and ran about on the table top. His hands and the box had been in full view every second.

It is important to cover continuously the magician's motions while an act is being performed. If hands get out of the camera picture, the whole illusion is lost because viewers are suspicious of possible off-camera switches. The effectiveness of Hal Vine's trick of threading together a dozen razor blades in his mouth failed partly for this reason. Vine was held on medium close-up while he showed the sharpness of the cutting edges of the 12 razor blades by picking one up and cutting bits off a card with one stroke. However, each time he reached for a blade, his hand went out of the camera picture. He might have been using the same blade each time to snip bits off the card to show razor-edge sharpness, as far as the television audience could see.

Rehearse Tricks on Camera

The producer of the *Hal Vine, Magician* telecast could have been taxed with two additional "Don't's" for the failure of the razor threading stunt: 1) The magician was not rehearsed sufficiently to remember to inform his audience what he was doing. They might have followed the act if they knew what to anticipate. 2) The thread and the razors faded into the background so home viewers could not see what Vine was doing. The average prestidigitator wears tails and starched bosom front—black and white, the extremes of the gray scale. White objects faded into the white bosom front; dark objects into his suit. The thread and the razor blades held in front of him faded right into Vine's shirt front. There wasn't enough gray scale contrast.

Televising Vaudeville Acts

A few television do's and don't's to the producer for star-billing vaudeville acts, monologists and magicians:

1. Stage the Act.
   - **a.** With mood music and slides.
   - **b.** With scenery.
   - **c.** With props.
   - **d.** With effective lighting.
2. Build Performer's Material to a Climax.
   - **a.** Insist on a full run-through rehearsal to note visual value of the act.
   - **b.** Plan the act to a visual curtain (many artists will object to changing routines).
3. Camera Rehearse the Show.
   - **a.** For visual effectiveness of gags (throw out purely audio gags).
   - **b.** For visual effectiveness of props, such as Indian clubs.
   - **c.** For visual effectiveness of magician's tricks to be sure that they can be seen at all times by televiewers.
     - c-1. This may require trial and error backgrounds.
     - c-2. It will require cooperation of the magician in performing the trick within the camera lens's field.
     - c-3. Magicians, particularly, will only be as good as the producer's camera work.

The producer should not overlook night club and vaudeville acts or even the concert artist. Until television builds its own stable of stars, these performers are program material for the television cameras.

XIX

Children's Shows

CHILDREN of all ages like slapstick, puppets, movie cartoons, dog acts, and magicians but for some reason these are not considered material for the purely children's show. Television, like radio, is attempting to develop the "suitable" and "acceptable" children's program. At WRGB, over 60 programs, especially designed to appeal to children, have been telecast during the past five years.

It is difficult to evaluate what children of different age groups like because most surveys and program ratings reflect what parents think children should like. An attempt though will be made to discriminate between the shows designed purely for kindergarten and primary grade children, the telecasts aimed at the sixth and seventh grade age group, and those planned for the Junior High School group.

Programs of General Interest

First, we might look at some programs of general over-all interest, such as *No. 25 December Street,* a Christmas visit with Santa Claus (Dec. 19, 1941). In this 15-minute visit with Santa Claus, the jumping-jack toys intrigued the younger children; the story and music interested the older group. *The Pageant of Christmas Eve* with costumes and music, presented by the Mont Pleasant H. S. drama group (Dec. 19, 1941), the *Thanksgiving Program* by the Scotia Junior H. S. (Nov. 25, 1942), and *Easter Festival* by the Pleasant Valley School (April 21, 1943), although of primary interest to the older children had enough glitter and gaiety to amuse little sister and brother.

If we could give children a circus every day perhaps the carnival spirits would pall—yet circuses are what children love. When the 1944 Ringling Brothers and Barnum & Bailey circus telecast from Madison Square Garden was cancelled because of lack of sufficient light, a member of the WRGB audience asked his five-year-old daughter Jane if she were disappointed. "Sure," Jane told her father and added, "and I'm in disgrace." She had invited the neighborhood children in to watch the circus on dad's television set.

Children's Carnival

The *WRGB Children's Carnival* bore out the circus appeal for children. Sixty-five 6 to 14-year-olds were guests at the studio-midway (May 14, 1944). They were allowed to crowd around the acts, the producer getting some excellent shots of the young audience as they were engrossed in watching the performers. A ring-tossing game with prizes for everyone opened the 45-minute carnival. Actually the children were started ring tossing some time before the program went on the air so that only the last few were on camera for the opening shots with the carnival barker who put on the old "Ladiees and gentel-men, the greatest attraction on my right . . ." act to the delight of the children. Slapstick with Putnam and Slate, acrobatic tumbling with The Two Jacks, a magician, a trained dog act and Joe Owens' puppets rounded out the bill. The telecast faded out on a grab bag and the party ended with the grab bag and ice cream and cake.

The children were a more controlled audience than adults of the same number. For safety precautions extra staff members were stationed at lamps and cameras. The show routine had been planned and the acts were rehearsed with full studio, camera and technical staffs so that everyone knew what was coming up. However, the telecast was a complete off-the-cuff production, the producer depending upon shots the cameramen could get since the problem of camera mobility with the children crowding around had to be considered. From reports it was a good show, the home audience rating it "excellent."

Planned Age Group Programs

The regular children's programs were planned to appeal to three different age groups. These shows are discussed in their respective categories.

I. Kindergarten–Primary Grade Group

A representative list of programs for the kindergarten–primary grade age group includes:

Children's Story—a story-teller, two six-year-old children and the picture adventure story of two children. (April 4, 1942). Slides had been made of the story-children, their pet dog, etc., and were cut in on cue. The actor-children participated beautifully in the telecast, turning pages and asking questions. It made for a very spontaneous fifteen-minute show, an afternoon program.

Stories for the Nursery—Martha Harper and three small children play-reading on a rainy afternoon (July 15, 1942). For the home audience, slides illustrated the play-story games which the children first listened to and then started to play by themselves as the telecast faded out. The routine of this type of program should be carefully planned and camera rehearsed, but not rehearsed with the children as it is better if the children react naturally.

Uncle Gene Reads the Funnies—a fifteen-minute, Sunday evening series (Jan.-Feb. 1944). Uncle Gene looked at and explained the Sunday funnies to five-year-old Alexander. Slides showed close-ups of the funnies to the home audience. Uncle Gene and Alexander were usually seated on a love seat, with the paper spread on Uncle Gene's knees. Two cameras were used for various long shots and close-up shots, particularly close-ups of Alexander who became quite interested in the doings of his favorite comics.

Cartoonist Illustrates Story

Uncle Gene and Alexander Visit—Use of an artist to give pictorial effects to story telling. In this Sunday evening series (March-April, 1944), artist Jon Broc drew cartoon pictures of a story Uncle Gene told Alexander. The drawings were lightly penciled in before the telecast in order to quicken the pace of the show. Alexander and the home audience watched Broc finish them, while listening to the story. Background music was used throughout the telecast. Two cameras covered the fifteen-minute spot, one centering on Uncle Gene and Alexander, the other on Broc and the drawing. Uncle Gene was seated at right angles to Broc and the easel in such a way that he could see the drawing as he told the story to Alexander who wandered between the two. The camera routine was planned and portions of the program, especially the artist drawing at the easel, were rehearsed with full camera crew.

Martha Harper Presents—a group of kindergarten children from a local Sunday School who played with blocks, sang an activity song, and visited with the minister (April 23, 1944). The children were interesting but they would not stay in close groupings. A skilled leader might have kept them together without destroying the spontaneity so necessary in telecasting children. The producer and cameramen had to work hard for off-the-cuff camera sequence but they missed some intriguing bits of business. This also was a 15-minute Sunday evening program.

Studio Introduction to Cartoon Film

Alexander Sees a Cartoon—studio introduction to a cartoon film (May 21, 1944). The 15-minute program opened with a close-up of Uncle Gene telling Alexander about a new kind of cartoon, pointing to the drawing board where a picture was set up. A second camera was dollied in on the picture for a tight close-up. The close-up was dissolved into an animated cartoon film, giving the effect of the picture coming to life. The staff artist had copied the first frame of the cartoon by projecting the film on heavy white paper and tracing it, matching the studio picture and the movie picture exactly. This is a good trick effect that gives studio setting and a feeling of immediacy to a motion picture. When the film ended, the producer cut back to Uncle Gene and Alexander in the studio for "and so that is how the black sheep came home dragging his tail behind him." The cartoon was a 16 mm. silent film, so recorded music was used as background sound.

Better Radio Than Television

The Storyteller—reading a story to children (April 30, 1944). Mary McIntyre, a 14-year-old radio actress, read a fairy tale from a large storybook to two small children. She mimicked the various characters and showed the children pictures which were duplicated on slides for televiewers. The children were unresponsive—in fact one yawned very engagingly on a close-up.

Staging a Fantasy

Getting picture effects and movement into the primary-age telecasts are major production problems. Dramatized stories seem to be the answer. *Sleeping Beauty* was given an intriguing opening, a little girl kicking her heels on the floor wished for someone to tell her a story. Then she noticed a huge story book, the size of the living room wall. The book opened and a story lady stepped out. Two sets were needed, one a corner of a living room, the other the story book, with the cover on hinges so it could open. They were set up next to each other so cameras could be broken (moved rapidly) from set to set. After the little girl and the story lady were comfortably seated on a sofa, she started telling the story of *Sleeping Beauty* which was acted for the most part in pantomime by the story characters in front of the book. Only an occasional line was spoken by princess or fairy to point up the story. For picture sequence, cameras were cut occasionally to the little girl and the story lady whose voice backed all the scenes. Slides were used to depict scenes unable to be shown in pantomime. Three cameras were required for the trick ending. While one camera held the little girl and the story lady in a two-shot, another focused on the book was brought in when the story lady walked out of the camera-one picture into the camera-two picture. In this segue she stepped into the storybook and the cover closed after her. A third camera holding a stage set wall of the living room was dissolved in through camera-two picture, giving an effect of the book disappearing to the little girl's startled "oh! good-bye." The pantomime–story book technique eliminates the necessity of performers, particularly children, memorizing their parts. (See script, Chapter XXXIII, pages 182 to 186.)

II. Sixth and Seventh Grade Group

Dramatized fairy stories, although primarily intended for the younger children, appeal to the second age group, the sixth and seventh graders, too. Especially planned telecasts enjoyed by this age group include:

The Children's Hour—an afternoon program, featuring songs, puppets, and a quiz, combined participation and entertainment (Feb. 7, 1942). There were two sets, a schoolroom for the songs and quiz, and a puppet stage. Cameras looked in on a song period, although actually it was a planned and camera rehearsed spot. Even with rehearsal it is difficult to get children of this age to be natural on camera. The song fest did help to create an informal atmosphere. The puppets, of course, were a great success (see Chapter XVI). While the puppet show was being telecast, the schoolroom set was cleared of excess chairs and piano and set up for the quiz. The two teams of children were equipped with slates and crayon. They drew answers to such questions: "What did Abraham Lincoln or George Washington look like?" Cameras dollied-in for a close-up of the sketches. Other questions involved some sign language and spelling (see *Quizzes,* Chapter XVII).

Talent Programs

Youth Night—a "Stars of Tomorrow" party, also combined entertainment and participation (Feb. 26, 1943). It was staged as a party in front of a curtained background except that the puppets were on a separate set. Children were served ice cream and cake to set the opening atmosphere and the acts grew out of the party. The hostess was important in keeping the spirit of the party going. The telecast was thoroughly planned and the acts camera-rehearsed. Many of the party children who were atmosphere made excellent camera shots. These children were not rehearsed, just instructed in what they were to do. This program received an audience rating of "excellent."

The *Junior Revue*—featured school children in a day-before-vacation exercise (June 4, 1944). The 15-minute talent show, a less successful telecast than *Youth Night,* used a classroom stage setting. As the teacher introduced each child, he left his seat and walked to a chalked spot for camera close-up while he recited, sang or played the piano. The show lacked pace and color. The *Junior Musicale* (on the same Sunday evening program) was also uninteresting. Two sisters, age 9 and 12, played a series of piano solos and a four-handed composition. The children might have been intriguing but they lacked camera presence, turning abruptly from the piano as soon as their brief compositions were ended. The program was choppy.

Dramatic Fantasy

The Whisker—a 15-minute animal fantasy performed by grade school children in costume (June 11, 1944). The sketch with its evil charms and a princess seemed to intrigue young viewers. The

child-actors were good performers, knew their lines and followed stage direction. The stage set was simple, an entrance to a cave and a wooden bench, with curtains for a background, leaving ample room for camera movements so the producer was able to get excellent close-ups of the young performers. Given direction and continuity, children's shows can make interesting telecasts.

III. Junior H. S. Group

The Junior High School age group enjoy the informative program or a show in which they can participate. Otherwise they seem to prefer adult entertainment or motion picture serials with cliff-hanging sequences. Some of the informative and entertainment programs televised at WRGB include:

Informative Programs

Australia: Its Land, Its People and Its Culture—a combination map talk and discussion (March 1, 1942) *Panamericana,* another program of the same type (May 2, 1942), and *History in the Making,* a social science class discussion with Mont Pleasant High School students participating (April 28, 1944). These telecasts, which received high audience ratings, are discussed in detail in Chapter XIII.

Public Service Programs

Victory Volunteers—a waste paper and iron salvage program showing the work done by the Schenectady Boys' Club (Sept. 9, 1942). Other public service programs or young people's groups' programs included shows with the Girl Scouts, the Campfire Girls and the Boy Scouts.

Participation Programs

Stars of Tomorrow—a series of 11 variety shows televised during 1942 and 1943. The teen-agers enjoyed participating in talent shows. The technique of staging and producing this type of program is the same as that for major variety telecasts (see Chapter III). The television audience evidently enjoyed the programs, the majority of them receiving a rating of "good" and several of them being rated "excellent."

Hobby Programs

Model Planes—a hobby program (Jan. 2, 1942). The 15-minute program consisted of a discussion and demonstration of model planes by three aviation authorities. They showed models of airplanes and actually flew a model propelled by a rubber band. The camera was able to follow its flight successfully. The program, which was rated "excellent," would have been more interesting with a capable master of ceremonies to question the men on important points. Authorities, on the air, are apt to forget important facts and amusing stories they tell during rehearsals.

Other hobby programs were: one on *Model Boats,* one on *Stamp Collections* and one on *Photography.* For the 15-minute *Stamp Collections* telecast, some of the more interesting stamps were photographed and slides (3 by 4 inches) were made from the photographs. These slides were used on the program to give the home audience a close-up view of the stamps as they were discussed.

Opera and Drama

Major telecasts with an appeal to children which should be mentioned in this chapter are Humperdinck's *Hansel and Gretel,* the full length opera production (Chapter VII, page 41) and *Alice in Wonderland* with the Mad Hatter, the White Queen and all the other story people (Chapter V, page 26).

Televising Children's Shows

The television producer in charge of children shows can indulge in fancy, can fall back on puppets and slapstick, but he must get movement and action into his shows to entertain his young television audience. Summarizing the shows and techniques based on WRGB experimentation, these factors should be noted:

1. Types of Shows Planned for the Various Age Groups.
   - **a.** Kindergarten and Primary Grade.
     - a-1. Children's Story.
       Stories are read or told, illustrated by slides, to one or more young guests. Children reactions (hoping they don't yawn) are telecast as part of the show.
     - a-2. Reading the Funnies.
       Slides are made of the comic strip and cut in on cue for the home audience. An "uncle" reads the comics to one or more children.
     - a-3. Cartoonist Sketching Story Characters as an "uncle" reads or tells the story to a young studio guest. The easel

should be set up so cameras can dolly in for close-ups of the sketches. It is important that the home audience see the drawings.

a-4. Group of children in Sunday School. It is difficult to get close-grouped shots in this type of program.

a-5. Animated Motion Picture Cartoons. An "uncle" in the studio shows his guest a picture on an easel. The picture is a duplicate drawing of the first frame of the film. This is dissolved into the animated film cartoon.

a-6. The Storyteller. A storyteller, voice-impersonating the characters, reads to one or more young guests. The story can be illustrated by slides.

a-7. Dramatized Stories. These can be presented in pantomime with performers in costume, while a storyteller is telling the story. A book stage set can be used giving the effect of appearing and disappearing book and characters. This adds a touch of fantasy and movement which holds children's attention.

b. Sixth and Seventh Grade Group.

b-1. Dramatized Stories. The same or similar to those for the Primary Grade (a-7).

b-2. The Children's Hour. This may include songs, a puppet show and a visual quiz (participation and entertainment).

b-3. Youth Night. This program was staged with a party setting, out of which naturally flow entertainment and participation. Children themselves perform. They are entertained by puppets.

b-4. Junior Revue. This program was given a more solid stage setting—a classroom, thus giving children a chance to display their talents.

b-5. Sketches. These may be fanciful playlets, in costume. The drama is kept simple, with children acting the parts. The actors must memorize their lines.

c. Junior High School Group.

c-1. Informative Type Telecasts. One of the most successfully telecast was *Australia: Its Land, Its People and Its Cultures* out of which flowed a map talk and discussion period, with each participating child assigned a topic.

c-2. Social Type Telecast. Organized group activities, such as the Campfire Girls ritual and the Boys Club *Victory Volunteers* participating in a salvage drive made excellent television programs.

c-3. Participation Programs. Teen-agers enjoy performing in public and amateur talent shows can be made interesting to watch. The series *Stars of Tomorrow* was enjoyed by the television audience.

c-4. Major Drama Productions. School plays and revues, such as *The Pageant of Christmas Eve,* with costumes, music and dancing are interesting to both children and adults.

c-5. Hobby Programs. Hobbies offer a variety of subjects such as *Model Planes* and *Stamp Collections* which make excellent visual shows.

d. Major productions with a special appeal to children.

d-1. *Hansel and Gretel,* a full length production of the opera.

d-2. *Alice in Wonderland,* a full length production of the stage play.

d-3. *WRGB Children's Carnival,* a three-quarter hour show.

2. Staging the Children's Program.

a. For Kindergarten and Primary Grade Group.

a-1. Where stories are being read or told to children, give the show a home setting familiar to the young audience.

a-2. Group playing may be set in a kindergarten surrounding, with blocks, games and a teacher.

a-3. Fantasies should employ a book setting or other familiar atmosphere in a child's life.

b. For Sixth and Seventh Grade Group.

b-1. Schoolroom backgrounds make excellent stage settings for quizzes or talent shows.

b-2. Party sets are excellent for talent or variety shows.

b-3. Fantasies and playlets require appropriate staging (see Chapter VI).

c. For Junior High School Group.

c-1. The type of telecasts—informative, public service or entertainment—will determine the stage set.

c-2. Realistic stage sets are more desirable for this age group.

3. Rehearsals.

a. For Kindergarten and Primary Grade Age Group.

a-1. The storyteller or leader-teacher should be directed and camera-rehearsed for a smooth production. Visual effects must be cued in. Participating children in most cases will react naturally when being told a story.

a-2. Dramatized stories must be rehearsed with line readings and full camera crew.

b. For Sixth and Seventh Grade Age Group and

c. For Junior High School Age Group.

c-1. Rehearse all programs for cue entrances, timing, visual effects and children participation. Camera crew and full technical crew rehearsals are essential so cameramen and producer can cover or take advantage of unforeseen action.

c-2. Skits and sketches require more line rehearsals with children than with adults, and should have a camera run-through and a full technical crew rehearsal.

Visual Formats for Children Shows

Television as yet has developed no *Lone Ranger* but it probably will with a *Hi-O Silver* in person. Children like adventure tales. Parent Teachers Associations and child psychologists who advocate constructive programs can begin thinking about visual formats for children shows because they will have an eager audience ready to look at whatever is offered.

XX

Religious Programs

Television can bring the spiritual comfort of religious services right into the home, especially to shut-ins. It can turn the familiar four walls into a miniature church, with the choir loft and the pulpit right in the room. The minister will be there, the cameras showing him in close-up. His television congregation will be searching his face, looking and listening.

Ecclesiastical music, Biblical plays, revival meetings, Sunday School and *Evensong* are some of the religious programs televised at WRGB. With planning, incorporating church bells, a church set with stained glass window effect, a choir and perhaps a processional, the producer can make a simple religious service attention-holding and satisfying. Schenectady experience, however, indicates that too frequently a sermon and some hymns are the sum total of what is offered as a religious program.

An examination of the successful religious programs, judged by audience reports, shows that *The Betrayal* (a passion play), a Negro Revival Meeting, excerpts from *The Messiah,* a children's Sunday School program, two of the series of *Evensong* and *The Gospel Illustrated* were outstanding in content and production. *The Gospel Illustrated* was a half-hour program (Sept. 9, 1943) with Phil Saint who preached a sermon on "Tranquillity" and sang a pleasing baritone while sketching a landscape illustrating his subject. He held the attention of the home audience.

The Religious Play

The passion play, *The Betrayal,* was presented by Siena College and the College of St. Rose of Albany (April 3, 1942). Film slides had been made of the world-famous Passion Tragedy of Oberammergau and were used in the prologue to set the solemn mood. (See Chapter V, page 25.) The two-hour enactment involved a large cast, five sets, and hours of rehearsal with camera crew and technical men. But consider the immeasurable joy that television can give viewers and shut-ins especially, making it possible for them to witness such a play right in their own homes.

Other religious plays which home viewers found dignified and in good taste were *The Challenge of the Cross* by the Bellevue Reformed Church (March 29, 1942) and *Martha and Mary* by the Emmanuel Baptist Choir (April 26, 1942).

Revival Meeting

The Negro Revival (Aug. 19, 1943) combined that rare spiritual joy expressed in song and exhortation. Rev. E. Clifford Davis and the Songbird of the East (his wife) called upon all to join them in song and the whole studio did, camera-men included. The home audience probably did, too.

Sacred Music

Cantatas offer the possibilities of many spiritually satisfying telecasts. Cantatas should be performed by good voices, otherwise they can be painful. When the Scotia Methodist Church Choir sang excerpts from *The Messiah* (Jan. 9, 1944), the program was one of the best produced at WRGB. Well planned camera sequences, getting close-ups of soloists and groups as they picked up solo parts, blended pictorial effects with the excellent voices. A special set was designed for the program with arches and organ loft.

Religious telecasts need simple effective stage sets to carry out the mood of the church service. As far back as March 1942, arches and columns have been used at WRGB.

Sunday School

An occasional children's Sunday School program is a welcome addition to the television schedule.

However, it must be well planned. The producer should not depend upon the pictorial attractiveness of a group of children. He should know what the routine is. Martha Harper brought her kindergarten class to the studio (Apr. 23, 1944). They wandered around the organ and some sang, others were busy playing with blocks. Then, instead of a Golden Rule story, the children planned, under suggested guidance, to welcome the minister. The children were particularly appealing and natural. An off-the-cuff teleshow such as this takes split-second decisions to move cameras to get action and not to miss some intriguing bit of business.

"Evensong"

Evensong, though, will probably be the type of religious program most frequently telecast. A production job is needed to interest and hold home viewers, otherwise the program is radio with music and a speaker. Simple details can enhance a production. The impression of lofty windows and arches and a choir loft was achieved in the stage setting for the First English Lutheran Church *Evensong* (March 12, 1944). The telecast opened with a shot of a stained glass window and the camera was dollied back to get a view of the choir loft and organist. The processional passed between the camera and the organist to take their places in the loft, achieving a silhouette effect. When the hymn was over, a cut was made to the minister for the invocation and then back to the choir for another hymn. The minister had been cautioned to look at the camera and to keep his sermon brief. Viewers felt they were in a church.

A more elaborate *Evensong* included an opening film sequence of the Emmanuel Baptist Church, whose minister was conducting the service. The producer and a motion picture crew had gone out on the previous Friday and shot footage of the church steeple, panning down to the stained glass window and finally to the front doors. On this *Evensong* telecast, church bells backed the opening film sequence which was extremely effective. But like many good effects, the ringing of the bells was overdone. Again the processional and the choir loft stage sets were used. The minister was held on a third camera on a separate set. He talked looking off-camera, spoiling the personal touch.

Special choirs and religious singers are always welcome. People want to see what they look like. They can be made into visual productions, with stage sets and sometimes slides, illustrating sacred songs. St. Basil's Russian Choir, The Spurr Family and the Claus Family are groups meriting special mention.

The religious telecast requires cooperation, planning and rehearsals with the church group. One of the problems is getting the group in for rehearsals. The *Evensong* choir will generally arrive at the studio an hour or so before the program. They have no comprehension that television is movement; that camera work must be planned. Even the most zealous viewers get tired watching a minister through a long sermon.

Televising the Religious Program

Planning and producing a religious telecast should include a consideration of these points:

1. Types of Religious Programs.
   - **a.** Biblical plays.
   - **b.** Cantatas.
   - **c.** Special choirs.
   - **d.** Sunday School study groups.
   - **e.** *Evensong* (neighborhood church choirs and ministers).
   - **f.** Special religious speakers.
   - **g.** Special services (such as Easter Sunrise Service, which should not be too difficult to televise when facilities are available).

2. Stage Sets.
   - **a.** Pillars and stained glass windows and arches suggest the interior of a church.
   - **b.** Choir lofts can be used or simple platform step arrangements, depending upon the size of the group.
   - **c.** Large choirs need a step-arrangement platform so that cameras can dolly in for close-ups of the back rows.
   - **d.** The minister or speaker may be put on a separate stage set with an arched flat and podium. This set-up lends itself to easier camera coverage, particularly if a third camera can be assigned to the minister. Having the minister on a low platform so that the camera shoots up, will eliminate the top-of-head view obtained when he looks down at his script.
   - **e.** The organ can be off or on set.

3. Special Pictorial Effects.
   a. Use film sequences when possible for opening sequences and for movement.
   b. Slides illustrating religious subjects can be incorporated into a program.
   c. Avoid long organ or piano introductions unless the accompanist can be held on camera with a smooth pan or cut to pick up the choir. Holding the picture of the choir through a long introduction is distracting.
   d. Glasses always reflect light. Suggest that choir members remove them.
   e. Some ministers weave constantly, while speaking, making it difficult for the camera men to keep them in focus. The producer should suggest that he stand still.
   f. Avoid picture dissolves from the minister to a choir member who is only one of the singers. Cuts to a group are better.

4. Rehearsals.
   a. *Evensong* and other services should be planned so that the producer will know the sequence of hymns and sermon. A routine rehearsal and a camera rehearsal are desirable.
      a-1. The minister and choir need to become familiar with camera movement. The minister particularly should be instructed to look into the camera, to know when he is on camera and to hold a friendly attitude while on the air.
      a-2. The minister should speak from memory or notes. Most speakers look down while speaking.
      a-3. During rehearsal the producer can note items the group failed to mention when planning the program routine.
   b. Biblical plays require all the rehearsal time given a regular dramatic production (see Chapter V, page 27; Chapter VI, page 35).
   c. Choirs singing cantatas should be rehearsed just as any other singing group for camera plotting and picture sequence. It is assumed that the group has been voice directed, ready to go on the telecast.
   d. Choirs and singing groups require rehearsal for sound balance.

5. Lighting Stage Set and People.
   a. The religious program suggests mood lighting for pictorial effect.
   b. Spotlighting of soloist and minister requires careful study.

6. Sound Pick-up.
   a. A boom microphone is generally satisfactory to cover the choir.
   b. A stand microphone or floor boom microphone is advisable for the speaker.

Religious Programs on Television

Religious telecasts will take their place in the program schedule of every television station. Ecclesiastic leaders should ponder the problem and challenge of television and how television can be used effectively for religious services.

XXI

Public Service Programs

PUBLIC Service programs will tax the ingenuity of the producer in contriving interest-holding shows. He will be working with groups that, for the most part, are not aware of the nature of a television production. It is only recently that radio has insisted upon a dramatic format in its free time public service programs, designed to serve the interest of the station's community. Television will be faced, and rightly so, with this same request for program time, with groups expecting to put on a speaker to plead some cause or to display the group's amateur talent. It is obvious that a program manager's responsibility will not end with assigning time and offering the station's facilities. Public service programs will mean manpower—will mean assigning a producer to work with the group, and it may require his having to write the show as well as direct and produce it.

Experience at WRGB shows that public service programs vary in format. They have ranged from a Red Cross dramatic sketch to an income tax talk. How best to present the story visually is the producer's problem.

Purpose of Program

The producer, upon being assigned a public service show, should consider the purpose of the program. A breakdown of the Schenectady public service telecasts would indicate four categories. These, including some of the teleshows, are:

1. Instruction.
   Fighting Incendiary Bombs.
   What Can I Do to Help.
   How to Operate Your Television Set.
   Victory Luncheon.
   Victory Garden Series.
   Income Tax.
   Victory Is in the Air.
   Basic Small Arms Club.

2. Recruiting.
   WAC program.
   Dogs for Defense.
   Rome Air Service Show.

3. Appeals.
   The Seeing Eye Dog.
   March of Dimes.
   Fire Prevention Week.
   Meet the Red Cross.
   Plasma at the Battle Line.
   But Tomorrow.

4. Voices of the Community.
   Schenectady Girl Scouts.
   National Dog Week.
   Campfire Girls.
   Scouting Is the Answer.

Producing "Instruction" Programs

The technique of staging and televising the above public service programs involves a study of the program content. For instance, *Fighting Incendiary Bombs* was a demonstration of how to handle fire bombs by Fire Chief Higgins of the Schenectady Fire Department. The details of televising this informative program are given in Chapter XIV, page 76.

In *What Can I Do to Help* (Jan. 9, 1942), guests from all walks of life stepped before the cameras to tell what they were doing in the war effort. These included a high school student, a policeman, a sea scout, a professor, a housewife, and a gas station operator. Where possible, slides and charts were injected for visual effect. Each person had prepared what he wanted to say, being allotted about three minutes. The telecast closed with an entertainer who sang *On the Road to Mandalay,* a selection not quite appropriate. *What Can I Do to Help* represented a

great deal of work on the part of the program staff, which did not show up in the televiewers' rating of "fair."

Wartime Foods

In *Victory Luncheon* (March 10, 1943), five experts on nutrition sat around a table and were served wartime food. The experts discussed the various dishes, the importance of soy beans in modern diet, their nutritive value and foods available. The purpose was to disseminate information on wartime food problems. It was a good show. Cameras were able to dolly in for close-ups of various luncheon dishes, pan to the speaker and otherwise get effective camera shots.

The *Victory Garden* series was put on by the WRGB staff in cooperation with State Agricultural authorities. The garden was followed from planning to canning in weekly telecasts (see Chapter XIV, pages 76–77).

Television and Taxes

The series, *How to Operate Your Television Receiver* (Chapter XIV, page 77), was a public service program on the part of the station itself. Televiewers commented it was "a good starter" and suggested "How about a ten-week technical course?"

There will always be a demand for time for *Income Tax* discussions and television is the medium for such programs. Charts can be used to show the complicated forms and cameras can be dollied in for tight close-ups, or slides can be made to show specific details (see Chapter XII, page 63).

Puppets and Food Values

Victory Is in the Air was an intriguing paper bag puppet show, stressing the need of proper nutrition for the family in wartime (March 29, 1942). The WRGB staff made the puppets from paper bags. Each represented some food or food fact. The staff artist painted puppet faces on the bags which were nailed on pieces of wood. The wood served as handles for the operators working behind a flat. They held up the puppets so that the heads of each character appeared over the top of the flat. As the commentator mentioned some food, the puppet would pop up and a voice would explain the nutritive value of that food. The puppets made excellent camera actors and added variety and appeal to what might have been a dull script talk. After the television showing, this presentation was viewed by audiences in theaters and at club meetings on an average of once a week throughout the spring of 1942. The script and puppets were used later on by other patriotic groups in neighboring cities.

Recruiting Shows

The recruiting public service telecasts have been of an entertainment nature and of an informative nature. One WAC program showed every aspect of the life in the Women's Auxiliary Army service (April 2, 1943) by short dramatizations, interviews, drilling and gymnastic exhibitions. Another WAC program, put on in cooperation with the Rome Air Service, showed life in the barracks. The Rome Air Service Band (men), placed center front of the studio, opened the telecast with a lively march. The camera was dollied back as two contingents of WACs marched in from either side of the bandstand. After going through some parade formations, they dispersed to a stage barracks set. John Seagle, voice of *Church in the Wildwood,* was then cut in on camera to sing with the band. Cameras were then switched to the barracks for solos and harmony singing by the lounging WACs. Televiewers rated this program as one of the top shows of 1944.

Dogs for Defense was a discussion of what the Army expects from dogs. An actual "K-9" member went through his training maneuvers. It made a very excellent and timely item for television. Cameras were dollied in for close-ups of the dog as he crouched, took a message and trotted off, and carried out other commands.

"Appeal" Programs

The appeal type public service telecast will probably be restricted to the Red Cross, War Bond drives, and Community Chest drives. These "appeal" programs will vary from interviews to dramatic skits. On *The Seeing Eye Dog* show (Feb. 17, 1943), two dogs that had been trained at the Seeing Eye Center in New Jersey appeared with their owners. Film sequences of the training regime were included on the instructive and enjoyable teleshow. The *March of Dimes* program (Jan. 13, 1944) combined a discussion of how the money contributed is

spent and an interview with an Infantile Paralysis Foundation official. Graphs and tables were used for visual effects.

Red Cross Programs

Meet the Red Cross was a visit to a typical Red Cross chapter house, where the television audience met some of the people the chapter helps (March 27, 1942). The studio set duplicated the local Red Cross room. Actors were used except for the Red Cross volunteer workers. This was a documentary drama, a one-act play written by Carolyn Coffin, the mystery story writer, and was planned and rehearsed as a regular dramatic presentation.

Dramatic Use of Film

Plasma at the Battle Line was telecast at the time of the Red Cross drive (March 17, 1944). An original skit by Judy Dupuy, it required two sets, one a kitchen, the other a corner of a hospital on some Pacific warfront. The mother reading the V-mail letter was dissolved to the wounded son writing her. A sequence taken from the War Department film, *Battle of Tarawa,* showing wounded men being carried back from battle and blood plasma being administered, was dissolved in over the letter the boy was writing his mother. His voice backed the film. The skit ended with an appeal to donate blood and money to the Red Cross. Two cameras were used; fades and cuts carried the picture sequence to a stirring climax. (See script on pages 178 to 181.)

War Bond Appeal

But Tomorrow (June 22, 1944) used two stage sets, necessitating a change of furniture and costumes in the living room set to show what money invested in War Bonds today can purchase tomorrow. The theme centered on the family who pinched to put money in War Bonds and the man who lived high while he was making war wages. Such a program gets over the message without being dull and pointing. Timing and staging and camera work must be planned and rehearsed, otherwise the telecast can be a dud.

Community Organizations

Probably most of the requests for free television time will come from organizations of a community service nature such as the Girl Scouts. The Schenectady Girl Scouts gave a demonstration of their activities (June 5, 1942) which was slightly drawn out. The producer might have been wiser to cut some of the material but hated to ignore any of the girls. The same was true with the Campfire Girls (Nov. 24, 1943) when they went through the full ritual used at their meetings. This included full Indian costumes, drum beating, Indian calls, and a candle light service. The routine was set—the problem was not so much technical but in getting variety of camera shots and picture sequence.

Staging a Campfire Girls' Program

The Campfire Girls program opened with one camera on an empty stage set—curtains with a tree, ground row and stump to give outdoor atmosphere and to leave playing area open for rituals and camera movement. The drums and sounds of the off-stage parade were used to back the opening shot and then the parade came on set into camera frame. Medium long shots of the whole group, close-ups of girls, beads and reward badges added variety. It was a long program, a full hour. Such a telecast is of interest primarily to a specific group.

Realistic Setting

In *Scouting Is the Answer,* presented in cooperation with the Schenectady Council of the Boy Scouts of America, a group of local scouts sat around a camp fire reading letters from former members (Dec. 30, 1943). The story dissolved from the letters to the former members, in uniform, writing the letters. The theme of the program was that scout training made army life easier. The fire effect was obtained by shining a spotlight up through a small turned up electric fan to which strips of cloth had been attached. The sides of the contrivance were masked by wood. The cloth strips fluttered by the fan and illuminated by the rays from the spotlight gave a realistic fire effect.

The Producer's Job

The producer should present the community program so that it is of general interest. The telecast should be brief, but of sufficient length to tell the group's story. Young community groups need encouragement. But television facilities should not be used to show off individual talents under the guise of a public service program.

Televising the Public Service Program

The public service program is a major production job. Based on WRGB experience, the producer, when planning such a show should consider the following factors:

1. Determining the purpose of the Public Service program.
   - **a.** To instruct the public.
     This might be on nutrition or safety or income taxes.
   - **b.** Recruiting.
     This is more or less limited to recruiting women for the armed forces, nurses aides, etc.
   - **c.** Appeals.
     Appeals made by recognized organizations for funds and support; by government agencies to urge people to buy War Bonds, etc.
   - **d.** Voices of the Community.
     This includes all scout groups, American Legion, the civic sewing society, etc.
2. Setting up the format of the show with the cooperating group.
   - **a.** Demonstration.
     Fighting Incendiary Bombs.
   - **b.** Discussion.
     Victory Luncheon.
   - **c.** "How-To" Programs.
     Victory Garden series.
   - **d.** Interview.
     Dogs for Defense.
   - **e.** Entertainment.
     Rome Air Service show.
   - **f.** Dramatic.
     Plasma at the Battle Line.
   - **g.** Variety—combining drama and demonstration or entertainment and how-to.
     Campfire Girls program.
3. The Script.
   - **a.** The cooperating group may furnish a script.
   - **b.** A writer may have to be assigned.
   - **c.** Only a routine work script may be required in which case the producer will probably write it himself.
4. Casting (depends upon the format of the show).
   - **a.** Usually group members participate.
   - **b.** Dramatic shows require professional actors.
5. Rehearsal.
   - **a.** The camera routine should be planned for sequence of action and picture effectiveness.
   - **b.** Rehearse the group at least once with full camera and technical crews. Get in a second camera rehearsal if possible.
   - **c.** Rehearse dramatic shows first for line reading, then have run-through rehearsals to set business and action and finally two camera rehearsals with full camera and technical crews.
6. Stage Sets and Lights.
   - **a.** The format of the program will determine the number of stage sets.
   - **b.** Stage sets and action will determine lighting.

Television and Public Service

The Public Service program has an important place in the television schedule. It is the voice of the people making itself heard in its community activities. The station's job is to see that the public service program is visual entertainment no matter what the subject may be.

XXII

Special Feature Programs

SPECIAL FEATURES, the producer will find, lend themselves more readily to the motion picture technique of the television camera. The very nomenclature, Special Features, indicates movement and visual effects as well as sound.

The studio-produced Special Feature shows may be spectacular, purely entertaining (a benefit) special day programs, informative programs of a dramatic nature (Benes Birthday Celebration) or remote pick-ups of sports or public functions. Any program that is unusual will probably be classed as a Special Feature since it will involve special stage sets, visual effects, a special crew of technicians and a special program staff.

Cataloguing the WRGB Special Feature telecasts, we find these classifications:

1. Spectacular.
   Polish Community Center.
   Electronics Queen.

2. Informative-Dramatic with Special Effects.
   Life of Lincoln in Photographs.
   Old Schenectady.
   Benes Birthday Celebration.

3. Special Day.
   Chinese New Year's.
   Colonial New Year's.
   Navy Day.

4. Documentary.
   Opening of Victory House.
   Lake Placid Ice Carnival film.

5. Special Experimental Telecasts.
   Television Edition of the Albany *Times-Union*.
   Features from *Yank*.
   American Magazine Show.
   Features from the New York *Herald Tribune*.

Folk Dances and Newsreels

Gaiety and dancing was the tone of the *All-Polish* show, produced in cooperation with the Polish Community Center (Jan. 29, 1943). In addition to the authentic Polish music and folk dances, two brief newsreels (specially shot film), were cut in, showing the visit of the Polish Ambassador to Schenectady and the dedication of the Kosciusko monument at Saratoga. The native costumes and folk dancing added excellent pictorial effects. The camera problem of setting up such a show is to get views of the over-all group and close-ups of individuals. This is difficult when only the routine of the show is rehearsed, without cameras. After the routine is set, the show should be rehearsed with full camera and technical staffs even if all the participants cannot attend rehearsal.

Television will receive many requests for time from organizations sponsoring bathing beauty contests and baby parades. When the Electronics Queen and her two runners-up visited WRGB, they were interviewed with suitable pomp and ceremony. A special stage set, a raised throne against a background of draped curtains was used. The Queen was escorted to the throne by her attendants and special background music was used to set the scene. The girls were interviewed by an announcer. As an interview, the program was a failure. The production job, however, was a success. Excellent close-ups of the girls were obtained so that the home audience saw the "Queen" and her attendants.

Film Slides of Photographs

Classing such programs as *Life of Lincoln in Photographs* and *Old Schenectady* as informative-dramatic Special Features has its points. The *Life of Lincoln* was an ingenious bit of contriving (Feb. 2, 1942). Duplicate 35 mm. film slide strips were made

of photographs from *The Photographic History of the Civil War* by Francis Trevelyan Miller which were threaded on two motion picture film projectors, using them as film slide projectors, alternately keeping one always one frame ahead of the other. In this way, continuous, smooth continuity of pictures was maintained, while the commentator read copy prepared especially to fit each picture. The pictures could be dissolved from one to another. This is how it worked. Frame A, for instance, was switched on the air from film projector No. 4 while camera-projector No. 5 showed Frame B. Then when Frame B was dissolved in, film projector No. 4 was moved up to hold Frame C ready to be dissolved in on the air. Recorded mood music was brought up when there was no commentary.

Use of Miniature Models and Slides

Old Schenectady (Oct. 28, 1942), produced in cooperation with the Schenectady Historical Society, featured a model of Yates House (the oldest home in Schenectady), a diorama of the settlement at the time of the Indian massacre, and historical views of people and landmarks. Slides were made from old photographs and were cut in on cue. Considerable thought and work were put into the telecast which lasted an hour and a half.

Folk Dances and Interview

The *Benes Birthday Celebration,* presented in cooperation with the Czech colony of Schenectady, was a combination of entertainment and discussion. Little girls in colorful Czech costumes sang native songs, ending with several folk dances. They were fascinating to watch, especially on the close-ups which show their serious faces. However, it was difficult for the cameramen to follow the children as they danced. The children had a tendency to go off set. Straight lighting was used both in the dance set and the interview spot. Dr. Burges Johnson, formerly of Union College faculty, interviewed two leaders of the group on the subject of Czechoslovakia. The novelty of this telecast was in the material and its manner of presentation.

"Special Day" Programs

Chinese New Year's (Jan. 6, 1944) featured an interview and songs. The telecast opened with slides backed by the Chinese singers and cameras were cut to Mr. and Mrs. T. Y. Shen who explained about the burning of red paper prayers and the tradition of the Dragon parade. The group of Chinese Singers gave excerpts from some of the traditional songs (Chinese music with its tonal scale is always unusual to the Occidental ear), every gesture and intonation of which have specific meaning. It was a moderately intriguing telecast.

The *Colonial New Year's* program (Jan. 2, 1942) was of local interest since it covered the New Year's customs among the Dutch ancestors of Schenectady's old families and showed some of the hand-carved wooden molds that were used for making an endless variety of cookies. Close-ups of the molds gave the home audience an opportunity to see the objects discussed. The details in the wood carvings were brought in relief by filling the low spots with talcum powder.

Many special day telecasts, such as *Navy Day* in honor of Theodore Roosevelt's birthday, make good television shows. This particular program (Oct. 27, 1940) included a recruiting scene, maneuvers and songs by the Schenectady Sea Scouts and a talk by Chief Quartermaster E. P. Chapman, USN. The variety of material gave pace to the show so that scene sequences were simple to build.

Special Film Uses

One of the most interesting documentary programs, *The Opening of Victory House,* achieved timeliness through the use of motion picture films made and televised on the same day. Film footage was shot of a newly married couple driving up to Victory House in a jeep. The cameras followed them to the front door where the groom carried his bride across the threshold. Other motion picture footage showed the workmen putting finishing touches to the house. The studio portion of the special telecast opened with a shot of the commentator in a library set and included a chalk talk by the contractor showing the features of the house. It was a natural sequence to dissolve from the contractor explaining the fixtures of Victory Houses into an FHA film showing how homes can be reconstructed. This was followed by the film made that afternoon of the opening of Victory House with its new tenants. This program suggests a method of covering special events that cannot be reached with a mobile unit. The special newsreel was shot with 16 mm silent

film, which was edited and the backing story timed to the film footage—no easy job.

Filming Public Events

Film will be used to record many public events when it is impractical to cover them with a mobile unit. The 1944 Winter Sports Carnival at Lake Placid was filmed by the General Electric motion picture department for WRGB. The film footage, sufficient for a 15-minute show, was taken on a Saturday night and was telecast the following evening (Feb. 20, 1944). Commentary to accompany the film was written to fit each sequence and was read by an announcer.

"Special Experimental" Telecasts

In the present experimental stage of television programming, several unique shows demonstrating possible source material have been televised at Schenectady. These included bringing newspaper features to life in a special television edition of the Albany *Times-Union,* telecasting features and stories from *Yank* and *American Magazine,* and news, features, and comics from the New York *Herald-Tribune.*

In bringing the news from the Albany *Times-Union* to life a continuity film shot was taken in the WRGB studio of an editor at a desk reading his paper. The producer introduced the program with this sequence, dissolving into a slide of the paper's masthead and then to the opening news spot. The producer cut back to the editor-reading-paper sequence to introduce each portion of the telecast. Eight sets were involved in the show which progressed clockwise around the studio with a few shifts back. Robert L. Ripley, Otto Soglow, Russ Westover and Bugs Baer were featured. Ripley showed some curios; Soglow and Westover sketched *The Little King* and *Tillie, the Toiler.*

One of the most interesting spots was the Woman's Page. An advertisement for a fur coat had been photographed and a slide made. The slide was switched on the air so that home viewers could see the ad. Then it was dissolved into a studio picture of the live model in exactly the same pose. The model then showed the garment. An off-camera commentator explained the style notes of coat and dress. Similarly a baby carriage was shown in a "For Sale" ad and a housemaid was interviewed for prospective employers. Special film footage (16 mm silent) had been taken of local Albany news and was shown as part of the telecast. Commentary was timed and cut on a record.

The hour and a half program was well planned on paper but sufficient time had not been allowed for rehearsal. Most of the celebrities arrived at WRGB on the morning of the show, giving the producer about seven hours to rehearse the full show. Camera, film and technical staffs as well as performers require rehearsal to coordinate for a smooth, continuous production.

Features from YANK

The *Yank* telecast included several unique features. Sgt. George Baker, creator of *Sad Sack,* drew his cartoons while being interviewed. This kept the audience interested in Sgt. Baker as well as in his drawings. Sgt. Baker sketched with charcoal which showed up very well on the television receiver.

A short story from *Yank* dramatized the experience of a soldier on his way to a port of embarkation. At several points the soldier's "thoughts" were interpolated over his spoken words. Those parts, the "thoughts," had been cut on a record and were synchronized with the actor's spoken words. It was effective.

The *Yank* program was not rehearsed as a unit but the production and technical staffs were fully informed of the show's complete outline. Sets were placed in a counter-clockwise sequence. The producer made continual use of dissolves and close-ups, giving pace and rhythm to the show.

The AMERICAN MAGAZINE Show

The *American Magazine* special show televised features from various departments of the magazine. These included an interview with a cartoonist, a map talk, an interview with a handwriting expert, a dramatized feature on rehabilitation of a discharged soldier (see Chapter XII, page 61), recordings of famous speeches and a dramatization of Eric Hatch's story, *The Snazzy Pigeon.* The story had been adapted for television and was presented as the closing item. A real fringe-topped surrey was brought into the studio for the play which called for a ride through Central Park by the two principals. A stage hand rocked the buggy from the rear (off-camera) in time to the clump of horse's hoofs (a

sound effects record). The camera held the actors on medium close-up. A section of a night club formed the other set. The play, which was cast and directed by the WRGB producer, received about ten hours of rehearsal. The rest of the show routine was planned and rehearsed the afternoon of the telecast.

The HERALD TRIBUNE Show

The special features of the New York *Herald Tribune* television show included an overseas news reporting effect achieved with slides of correspondents and film (see Chapter XI, page 58), a map talk on the Pacific situation by Major George Fielding Eliot, a brief sports interview with sports editor Stanley Woodward, buying vegetables with home economist Esther Foley, an interview on books (see Chapter XII, page 63) and a local social science class discussing *History in the Making* (see picture, page 66). It closed on a bright spot, a dramatization of the comic strip, *Penny* by Haenigsen. It was a complex, unrehearsed program, involving seven sets.

Televising the Special Feature

The WRGB experience with Special Feature programs can contribute only basic factors to be considered in planning and telecasting studio or remote pick-up shows. The Special Feature encourages boldness in visual effects. It challenges the imagination and inventiveness of the producer.

Some of the program-building fundamentals to be considered for a Special Feature show are:

1. Types of Special Feature Programs.
   - a. Spectacular.
     - a-1. Imagine televising an Easter Sunrise Service. Actually the producer will more likely be assigned a Community Center celebration.
   - b. The Informative-Dramatic.
     - b-1. This includes talks and entertainment, such as *Benes Birthday Celebration.*
   - c. Special Day Programs.
     - c-1. These include programs such as *Chinese New Year's* and *Navy Day.*
   - d. Documentaries of an official nature.
     - d-1. This type of program may include film sequences; for example: *The Opening of Victory House.*
   - e. Public Functions.
     - e-1. These will probably be remote pick-ups.
2. Arranging the Special Feature Show with co-operating organization or group.
   - a. Determining the Purpose.
     - a-1. Determine the purpose of the show so that program material and camera sequences can be plotted to build to a climax. Knowing the purpose will be a great help in off-the-cuff productions.
   - b. Participants.
     - b-1. Check participating members or officials and how they fit into the show.
   - c. Building the Show.
     - c-1. Urge visual planning of the show if the program material can be controlled. When televising a public function, the producer takes what he finds.
   - d. Studio Produced Shows.
     - d-1. Check for script and continuity and plan for rehearsals.
   - e. Remote Pick-ups.
     - e-1. Get details of program. These are always changed at the last minute but they will be a help in plotting camera shots. It is easier to alter camera takes than to have no camera sequence planned.
3. Planning the televising of a Special Feature.
   - a. The Work Sheet.
     - a-1. Make out a work sheet, planning opening sequences, transitional effects (getting smoothly from one item to the next), mood music and closing sequence. Spot the items for dramatic balance.
   - b. Dramatic Spots.
     - b-1. Check for script to be furnished by group.
     - b-2. Requires a script writer.
     - b-3. Check who is to cast and rehearse spot.
   - c. Music Spots.
     - c-1. Check and plan for soloist or chorus.
     - c-2. Check and plan for dancing.
     - c-3. Check for mood and transitional music.
   - d. Visual Effects.
     - d-1. Plan visual effects for speaker.

d-2. Plan visual effects for dramatic sequences.

e. Floor Plan (if studio produced show).

e-1. The floor plan should show: the number of sets, type of sets and sequence (if shooting clockwise or counter-clockwise).

e-2. Give copies of the floor plan to studio artist and property man.

4. Rehearsing the Special Feature.

a. Studio Produced Shows.

a-1. Expect it to be rehearsed in spots and the show as a whole televised off-the-cuff. In such a case, be sure the camera crew and technical staff know sequence of the program. Provide everyone with shooting schedules.

a-2. Get a run-through rehearsal if you possibly can. A full camera rehearsal is desirable.

a-3. Some studio-produced special features can be camera plotted and rehearsed with full camera and technical staffs. Such a show is under complete control of the producer.

b. The Remote Pick-up.

Mobile unit pick-ups will probably be produced off-the-cuff, especially when covering public events.

Plan the "Special Feature"

The amount of planning and camera plotting of shots and picture sequences done before the actual televising of the Special Feature will make the producer's job that much easier and will assure a reasonably successful production. Cutting from camera to camera or panning for shots does not give the producer time to think out picture effects when he is on the air. Television requires complete coordination of producer, cameramen, light men and technical crew, and Special Feature shows are the crucial test of this teamwork.

XXIII

Personalities

PERSONALITIES will always make good television. People want to see what Hertha Glaz, Metropolitan contralto, Col. Hans Christian Adamson, Andrew Ponzi, pocket billiards champion, and Henry Scott, humorist-pianist, look like. The producer's job will be to present these personalities in a visual setting that will interest and hold the home audience. Even an interview should be planned. The producer should devise an intriguing opening sequence or, if it is an informal interview, he may plan a variety of close-up camera shots to hold looker interest. This was done when Colonel Adamson was interviewed (see Chapter XII, page 63).

Often the personality is an artist, an explorer or a national figure who has a story to tell. The visual show then will practically evolve itself.

Arctic Explorer and Travelogue

When Capt. Bob Bartlett, the Arctic explorer, visited WRGB, he brought with him a film record of his cruise to northern waters (May 11, 1944). Bartlett was first interviewed on camera. While he told about himself and something about his plans to revisit Arctic waters, viewers had a chance to see what he looked like. The film was then cut in and Capt. Bartlett's voice called attention to his ship, the "Morrissey," and recalled incidents and mishaps. A special monitor set was installed in the studio so Bartlett, seated at a table with a microphone, could see the film as it went out on the air. At the end of the film, the producer cut back to Bartlett for a concluding word and slide sign-off.

Capt. Bartlett and his film made an interesting television show. Viewers rated him "excellent."

A Few Personalities

Here is a list of a few personalities who have appeared over WRGB: Col. Lemuel Q. Stoopnagle; Robert L. "Believe It or Not" Ripley; Otto "Little King" Soglow; Rex Stout; Dr. Dixon Ryan Fox, late president of Union College; Dr. B. K. Ross, director of Dudley Observatory; Carolyn Coffin, mystery story writer; Mrs. Jessie Emerson Moffat, authoress; Dave Murphy, circus clown; Arthur Snelling, glass blower; Edward Buyck, artist; Capt. George Johnston, author and war correspondent, and Walter C. Simon, silent film accompanist and accredited first composer of mood music for films, Stanley Woodward, sports editor of the New York *Herald Tribune,* and Major George Fielding Eliot.

Televising Hertha Glaz

Hertha Glaz, Metropolitan contralto, was eager to look at a television camera and to know how it worked. She wanted to know what make-up she should use, and wanted suggestions on camera presence. She had brought along a Spanish costume for her song numbers, Valverde's *Clavelitos* and two excerpts from *Carmen,* the *Habanera* from Act I and the solo from the card scene in Act III. When sustained applause followed her singing, Glaz with professional aplomb made a very nice curtsy. Camera presence is so essential to a visual show. Awkward gestures or uneasiness can spoil an otherwise excellent telecast.

Two sets were used for Miss Glaz's 15-minute recital (June 9, 1944). For the opening number, *Clavelitos,* Glaz sang at the piano. For her *Carmen* arias a woodland set was provided. While she took a close-up camera bow after the *Habanera,* a prop stump was slipped on set to serve as a table for the card scene. Boomed-up camera shots (camera shooting down) obtained excellent angle takes of the cards as she supposedly told her own fortune, although it was difficult to get close enough for the home audience to distinguish the Ace of Spades.

Billiards to Piano Playing

Andrew Ponzi, Henry Scott and Capt. Bartlett were rated "excellent" with the WRGB audience. Ponzi, whose wizardry with pocket billiards (see Chapter IV, page 22) completely astonished viewers, is a showman as well as a sportsman. His running chatter, his staging of shots and his camera presence combined to put the telecast over. The same showmanship was brought to the cameras by Henry Scott, comic at the piano (see Chapter VIII, page 46). His satirical piano sketches, played superbly, are all visual and a half-hour of Scott is top entertainment.

Mood Music for Silent Films

Walter C. Simon, the veteran silent film piano accompanist, furnished the basis of two programs. On the first one, the most interesting, he was interviewed right at the piano (April 13, 1944). He told how as a young man he developed mood music and sound effects to go with silent films as he pounded on a tinny piano in a nickelodeon. Then Simon explained to the home audience that he would again play the mood music he composed for the early silent movie, *The Great Train Robbery*. The film itself was then cut in for viewers to watch while they listened to Simon's accompaniment. A brief sign-off interview closed the show.

Medium for Personalities

Political figures attract televiewer interest. Imagine the President or a cabinet member speaking over television. Practically every one who could get to a television receiver would be there to watch and listen. Given suitable staging, movie and opera stars and band leaders are television naturals.

Personalities will make excellent material for commercial and sustaining programs. The television producer need only put the personality in an intriguing setting and he can hold an audience throughout the show.

XXIV

The Television Commercial

As an advertising medium, television offers unlimited possibilities. It can appeal to the eye and to the ear, and it has the added factor of movement. The home television receiver becomes a living display window for a sponsor's product.

There are four basic types of television commercials:

1. The radio type.
   The commercial is spotted before and after a program, with perhaps a middle commercial.
2. The billboard or poster type.
   The name of the sponsor or the product is worked into the show without direct product or name selling.
3. The entertainment commercial.
   In this advertising form, the sales points of the sponsor's product are turned into entertainment, or the entertainment is furnished with special comedy or musical material which sells the product.
4. The demonstration type or informative commercial.
   This includes the "how to" type of program as well as style and food shows.

There are, naturally, variations and combinations of these four types but thus far all television commercials presented by WRGB fit into one of these four classifications.

Commercials at WRGB

Imagine being able to show consumers in their homes the thirst-quenching satisfaction of Royal Crown Cola and the importance of a minute by a Hamilton watch on a nurse's wrist as she takes the pulse of a patient. These typical commercials telecast by WRGB, Schenectady, are but two of a list (49) of experimental "living" advertisements tried by agencies in cooperation with the station's staff.

Some of the products and services televised, in addition to Royal Crown Cola and Hamilton Watch, include: Goodrich Koroseal, Vimms Vitamins, Red Cross Blood Plasma, War Bonds, Blackstone Cigars, Wildroot Cream-Oil Hair Tonic, American Playing Cards, Remington arms and ammunition, Easy Washer washing machine, General Electric Mazda lamps, Procter & Gamble's Ivory soap and Duz, Socony-Vacuum's Mobiloil, Owens Illinois Co.'s Libbey glassware, *Look* Magazine, *American* Magazine, and tea. The fashion shows which paraded dresses and jackets, shoes and accessories, hairdos and make-up have already been covered in the chapter on *Televising Fashions* (Chapter XV). The so-called woman's show, full of cooking hints or household tips, interior decorating and dressmaking, has been considered and discussed in the chapter headed *The Home and the Workshop* (Chapter XIV).

The Indirect Commercial

The very fact that the television audience can see the sponsor's products used throughout a program, turns it into a complete commercial even though it wasn't intended as such. The Batten, Barton, Durstine and Osborn-Remington Arms presentation, *Calling All Hunters,* for instance, was actually a discussion between Oliver Rodman, editor of *Outdoors Magazine* and Gail Evans, an expert on guns. The set, a hunting lodge, complete with moose head and maps of hunting areas, served as a background for guns and ammunition displayed on the rough wood table around which the men sat as they talked about game and safety rules. They demonstrated the various guns and ammunition appropriate for hunting. Even though no direct commercial sales talk was made, other than "Presented by Remington Arms,"

▲ THE hostess of *Flight Forty* shows a G-E Mazda lamp of today before the play starts.

▲ A DRINK of Royal Crown Cola refreshes the singing cowboy in this entertaining spot commercial.

THE publicity executive completes his War Bond talk and reaches for a Blackstone cigar. (Of course his desk lamp sells fluorescent lighting, too.) ▼

CURTAINS that can be washed with a hose receive a television demonstration by being sprayed on the studio set. (For human interest, the husband does the work.) ▼

the whole half-hour was, in effect, a commercial as well as a sports show and an informative talk.

The same was true with the J. Walter Thompson –American Association of Playing Card Manufacturers bridge demonstration, with bridge experts Mr. and Mrs. Arthur Sobel and Mr. and Mrs. William McKenney. Here again the selling was indirect. Televiewers were interested in seeing the Sobels and McKenneys playing (see Chapter XVII, page 94) and the fact that the experts were playing with American Playing cards would condition the audience to buying these cards.

Test Spot Commercials

BBD&O conducted an interesting series of test commercials in 1943 for Wildroot Cream-Oil Hair Tonic, Royal Crown Cola, Vimms Vitamins, and Hamilton Watches.

The Wildroot Cream-Oil "entertainment" skits varied in length from three to five minutes and were complete visual spots, featuring the mishaps of Wild-Wig Charlie and his success after using Wildroot. In the test series of three, the first spot was done by puppets and the other two by a live cast. In the first commercial Wild-Wig Charlie, impersonated by a cowboy puppet with frowzy hair, was advised by a singing quartet to try Wildroot. He did. A girl puppet was brought in. She took one look at his gleaming hair and fell into his arms. This was a repetition of a singing commercial presented previously over WRGB with live actors instead of puppets. Despite the apparent novelty of the puppets, the skit with live actors received a better audience response.

The second commercial in this Wildroot series showed Wild-Wig Charlie, played by an actor, getting dressed for a date. A pal advised Wildroot Cream-Oil. Charlie tried it. Two girls came on, took one look at Charlie and fell into his arms.

The third commercial spot was a proposal, presented also with live performers. The girl would have none of Wild-Wig Charlie. Papa behind the sofa whipped out a bottle of Wildroot; boy applied it, girl accepted on spot. This went over well. The appeal of this third commercial is found in its story plot—Boy finds Girl. Boy loses Girl. Boy gets Girl. It was no longer than the other two Wildroot spots but it was more than straight selling.

All three Wildroot spots were done in pantomime with an off-camera commentator backed by music. This same production technique was used in presenting the Vimms Vitamin commercials.

The three Vimms Vitamin "informative" commercials presented: 1) a woman before and after 1943 rationing, 2) two housewives at the end of a day, one of whom had taken Vimms, and 3) a display of foods with an announcer comparing their vitamin values with Vimms.

The first Vimms commercial used three sets. A woman was first seen ordering steak and chops over the telephone. The scene switched to 1943 and the woman was seen in a butcher shop looking forlornly at a lone frankfurter. The announcer informed her that she could get Vimms even though meat was scarce. The cameras followed her from the butcher shop to a drug store (the third set) and showed her buying Vimms. This commercial, serious in content, appealed to parents.

The second Vimms commercial opened with two young women with brooms and mops starting their housecleaning; one took Vimms. End of day: one girl is exhausted, the other fresh as a daisy. (See picture, page 162.) The announcer off-camera advised the first girl to "Get that Vimms feeling." The playlet, actually two tableaux, did not appeal visually—it lacked action.

In the third commercial, the announcer compared the vitamin values of certain foods—eggs, meat, cheese, etc.—with the vitamin content of Vimms. This was an appeal to the serious minded citizen, particularly the head of the family.

Audience Reaction

A digest of audience responses to the Wildroot and Vimms commercials showed that viewers suggest shorter and snappier television commercials, about one-quarter the length of the three to five minute test series. One televiewer responded: "I bought a bottle of Wildroot but the commercials for Vimms didn't sell me. The comedies for Wildroot seem much more enjoyable than the seriousness of the Vimms commercials." But that was one man's opinion. Another's was: "The Vimms commercials were sensible but the other programs would be enjoyed by children. A busy housewife would not give up her time to look at advertising of the latter type. On second thought, if the advertising was followed by an interesting serial story, like the radio soap operas, it might appeal to some women."

Audience Suggestions

Here are some advertising pointers from television viewers based upon comments on the Wildroot and Vimms commercials, that might prove useful guides in building future television commercials:

Advertiser's message should be brief to be effective.

Elaborate and time consuming sketches are irritating.

Make them educational.

Satisfactory if not blatant or not pointed at morons.

"Corny" commercials are amusing when not repeated too often. They are terrible if overdone.

Short, snappy, informative commercials giving useful information of a product appeal.

Emphasis by continual repetition of simple-minded phrases or stupid pictures will be horribly boring.

Too much advertising done—too much repetition—too much extolling of virtues by announcer is bad. The acting makes so much talking unnecessary.

A happy combination of funny, hilarious and serious—always on the wholesome side—is effective.

A short simple announcement is better than a high pressure session. Short and amusing but not corny commercials are satisfactory. Comedy and educational commercials are best.

Another Test Series

Another series of test commercials, again three to five minutes long, was telecast over WRGB for Wildroot Cream-Oil Hair Tonic, Royal Crown Cola, *Popular Science* magazine and G-E electronics. The before-and-after Wildroot Cream-Oil commercial opened with two cave men fighting over a girl, one dragged her off. The cameras switched to a present day scene: two men trying to win a girl by more subtle means. One offered money and even nylon hose. Wild-Wig Charlie applied Wildroot Cream-Oil to smooth his hair and won the girl. The two scenes were done in pantomime to an off-camera announcer's voice. This is an example of the delayed commercial, sneaking in the product and sales talk after intriguing the home audience. (See picture, page 162.)

For Royal Crown Cola, a Lonesome Cowboy puppet and his girl friend were featured in *Prairie Love Call*. The cowboy vainly tried to sing. The girl handed him a refreshing drink of Royal Crown Cola. The cowboy visibly straightened up and went on with a serenade. The girl was captivated. This again was a repeat of a commercial presented previously with live actors. And again the puppets were not so well rated as the live talent.

The Home Hints "how-to" series, based on *Popular Science* Magazine, used a special puppet to pass on tips from the magazine's pages. (See Chapter XIV, page 75.) An announcer, off-camera, impersonates a squeaky voice for Mr. Popular Science (the puppet) who helps Mrs. Ima Fixit with time-saving and other household tips. Mrs. Ima Fixit in her kitchen carries out in pantomime the household hints suggested by the puppet. Programs of this series are well received by the television audience.

The General Electric "informative" commercial, *Highways of Tomorrow*, showed how G-E electronics devices will aid postwar air transportation. In addition to a map indicating possible airline routes, slides were cued into the program, showing the different types of planes planned for different jobs. The subject appealed to public fancy and the slides injected good visual interest.

"Demonstration" Commercials

Easy Washer presented one of the most successful "demonstration" commercials. It was actually part of a double-commercial television show titled, *Your Face Is Your Fortune*, a BBD&O presentation. The Merton Institute, a job analysis organization, took a girl who was unsuccessful at holding a job, through an aptitude analysis and placed her in the right position. In discussing vocations with another candidate, a housekeeper, the interview led into a discussion of the Easy Washer. The producer cut the cameras to the Easy Washer. An announcer took the removable parts out and showed them to the home audience (the cameras getting excellent close-up shots of each piece) and explained their function. A camera boomed up and looking down into the interior of the washer showed the announcer replacing the parts and water and soap being added to soiled clothes. Viewers actually saw the washer in operation.

Telephone Survey

After the Easy Washer television commercial, a telephone survey was made. 51 homes in the WRGB area were contacted, representing a sample of approximately 15% of the total television set owners in the area. Of these, 47%, or a total of 24, saw the Easy Washer commercial. *22 or 91.7% were able to name the washing machine demonstrated* and 62% thought the demonstration was convincing. Fifteen women said they would buy an Easy Washer. This was an evening program and more than half the home audience, mostly women, enjoyed the demonstration. The age group was 20 to 35.

An "Informative" Commercial

The Goodrich "informative" television program was a "Postwar Preview" of fabrics, Koroseal and other products made from a synthetic rubber substitute. This show was the first television program to be sponsored by a rubber company (Aug. 6, 1943). (See pictures, pages 66 and 122; also see page 67.)

The half-hour institutional, with Dr. Howard Fritz, head of B. F. Goodrich research department, demonstrated how rubber substitute is made and showed some of the uses of the product. After the laboratory process was explained, cameras cut to a living room set. The lady of the house wanted her Koroseal curtains washed. Her husband took them down, took them out to the backyard (second set) and turned the hose on them. In no time, they were fresh and clean ready to rehang. This type of commercial would certainly appeal to the average housewife *and* Mr. Husband. On other sets (there were 5), attractive raincoats were modeled and an outdoor scene showed the husband out golfing with golf balls made from synthetic rubber. Except for Dr. Fritz's actual demonstration of making synthetic rubber in a realistic laboratory set, the rest of the commercial was cut in on cue and done in pantomime over Dr. Fritz's voice. This achieved a constant tone of authority. The audience opinion was that commercials similar to the Goodrich program are interesting: "The demonstrations were fine. One was able to learn a lot from this kind of advertising."

Time Signals

One of the most successful spot commercials presented at WRGB was the series of station breaks, taking from a minute to a minute and 20 seconds, for Hamilton Watch. The first commercial opened with a close-up of the Hamilton Master Navigation Watch, showing its sweep second hand. Through this a slide of a Flying Fortress was dissolved. This in turn was faded out as a man's wrist watch with sweep second hand was dissolved in. A voice off-camera noted: "21:30 bombing time . . . 9:30 home front time."

The second Hamilton Watch commercial showed an Army nurse, wearing a Hamilton wrist watch, taking the pulse of a bandaged soldier. This one-minute spot opened with a slide of the watch, then cut to the battlefield. The sound-effects were important to this visual commercial—the sound of the ticking of the watch and the heartbeat of the man.

Public Service Messages

Two commercials devoted to public service themes were televised, both with excellent viewer reactions. The Reichel Laboratories brought complete laboratory equipment to Schenectady and WRGB. The program showed how blood, obtained from Red Cross blood donors, is converted into life-giving plasma. The documentary opened with an actual blood donation being given supposedly at the Schenectady Red Cross Blood Donor Center. The donor chatted with the nurses to show he suffered no pain or discomfort during the process. Then the cameras followed the blood to the Reichel Laboratories where it was converted into plasma. The last camera sequences showed the plasma being administered to a wounded soldier. It was an effective and informative documentary.

For the Third War Bond Drive a one-minute appeal opened on a poster picturing a paratrooper. A second camera held an actor similarly dressed and in a similar pose. The actor was dissolved in over the paratrooper picture giving the effect of the paratrooper coming to life. After his appeal the actor fell back into position and this camera close-up was dissolved out as the poster was dissolved in. This time the camera dollied back to show the whole Third War Bond Drive poster.

Next to the Hamilton Watch spots and the documentaries, probably the most successful spot presented by WRGB was BBD&O's two-minute Blackstone Cigar commercial which included a War Bond plea. An official sat at an office desk. He looked up as the commercial went on the air and delivered a War Bond talk. As he finished, he reached into a

well placed cigar box so that the name Blackstone could be read, and took out a cigar, lit it and signed off. This is an example of the billboard or poster type commercial. (See picture, page 122.)

Radio Type Commercial

When Vimms Vitamin-mineral tablets sponsored *Meet Miss Subways,* the short opening commercial was read by the announcer. For visual effect a shot of a Vimms package was shown; then the cameras cut to a poster of *Meet Miss Subways* and the half-hour play was presented. The actual Vimms commercial came at the end of the show and used two stage sets. One set was a druggist display of Vimms; the second set was a victory garden, with two women, one worn out and the other fresh. Again the slogan, "Get that Vimms feeling" was emphasized. The druggist explained about Vimms and offered viewers free samples. (See picture, page 162.)

The radio-type opening commercial leading into shows has been successfully telecast at WRGB. General Electric Mazda Lamps sponsored the spy thriller, *Death on Flight Forty*. The opening commercial gave a brief history of 50 years of lighting, contrasting the old-time carbon lamps with modern Mazdas. As the announcer concluded his talk, the hostess of *Flight Forty* came into the commercial, reminding him that the plane was about to take off. Cameras followed them right onto the stage set, a replica of a plane. It was good selling. The commercial and show received a viewer rating of "excellent." (See picture, page 122.)

Commercial As Part of the Show

The Compton Agency did a series of three interesting commercials at WRGB. Blonde Yvette was spotted in a 15-minute musical program for Procter & Gamble's Ivory Soap. After her second number, Yvette actually sang a ditty in praise of Ivory. In this case the singer instinctively knew how to sing a song visually and, consequently, could put over a television singing commercial.

For Socony-Vacuum's Mobiloil, the Compton Agency selected Stan McGovern, cartoonist of *Silly Milly* for the New York *Evening Post*. After a brief introduction, so that viewers had a chance to find out who he was and what he looked like, the interviewer told him a current news item which went something like this: "Because of the lack of wartime replacement parts, cars leave the road—one every 30 seconds." McGovern then took a piece of black lecturer's chalk and paper and went to work drawing a strip showing Silly Milly going "flat" when she jumped into the car that wasn't there because it had not been serviced with Mobiloil. McGovern had previously finished the final cartoon of the strip and had lightly penciled in the others. Before the cameras, he had only to go over the penciled lines with the chalk. Having the cartoons pre-sketched kept the spot fast-paced and held viewer attention.

The third Compton commercial (a show for Procter & Gamble's Duz) was *The Saga of Steve Cranberry,* a Western horse opera performed by Remo Bufano's especially built marionettes. The commercial for Duz was part of the story. A magician came to the Western whistle-stop and cleaned up the flea-bitten gang around the jail with a cloud of magic rain, Duz, and then sang "Duz does everything." During the cloud effect, a separate camera picked up a box of Duz being poured into a bowl of bubbly suds. That was the complete commercial. The listener comment was: "Commercial on Duz very nicely worked into show." (See picture, page 88.)

The three Compton commercials which took an hour—15 minutes each for Yvette and McGovern and a half-hour for *The Saga of Steve Cranberry*—were rated "excellent" by televiewers.

Look Magazine has experimented with building television shows from the magazine's features. Three were telecast over WRGB: *Look* Photocrime, with Peggy Conklin; *Look* Photoquiz with Col. Stoopnagle; and *Don't Buy Another Depression,* a feature-talk with dramatized bits showing the apple-selling days of the 1920's and the war spending of today and what War Bonds will buy tomorrow. The commercial on the teleshows, except for the photoquiz, was confined to opening and closing slides of "Presented by *Look,* the Family Magazine." For Photoquiz details see Chapter XVII, page 93.

The technique of incorporating the commercial in the drama was employed by J. Walter Thompson for the Owens Illinois Glass Co., when Nancy Hamilton's *The Story of the Opera* starring Brenda Forbes was telecast at WRGB (April 29, 1944). Two sets were used, one a foyer entrance to the restaurant dining room, the other a corner of a dining room where the main action of the play occurred. The complete locale was camera established. When a friend was shown entering the foyer, the camera

picked her up just as she was stopping to admire a glass display. The Libbey Glass commercial was then inserted in the form of a chat between the head waiter and the friend. After this bit the friend went on into the dining room and *The Story of the Opera* continued. Opening and closing slides credited the program to Owens Illinois Glass Co., makers of Libbey glass.

Institutional Commercial

A tea telecast presented by The Tea Bureau, Inc., was naturally institutional. As its title, *The History of Tea and How to Make It,* implied, the show was educational and instructive as well as an indirect sales presentation. It was in the nature of a talk (half-hour), using slides, film and a dramatic spot to give movement and to hold interest in the rather long presentation of a purely "talk" nature. In programs of this type, the speaker must memorize his lines and be able to talk naturally and freely before the camera without obviously referring to a script. (See Script on pages 196 to 201; also see page 69.)

Presenting Television Commercials

Rather than summarize methods of staging television commercials, it might be well to point up some factors that require consideration in evolving the visual commercial:

1. Let the acting and the product do the selling. The home audience can "see" for itself. A television picture does not need a lot of words.
2. Indirect selling has greater viewer-impact, according to Schenectady experience, than direct selling which extols the product's virtues.
3. Demonstrate the demonstrable:
   - **a.** The Easy Washer commercial is an excellent example of the "selling" effectiveness of showing the demountable parts and the simple operation of the machine.
   - **b.** The Goodrich Koroseal show explained how the rubber substitute was made and demonstrated some of its uses.
   - **c.** If it is wearing apparel, show it being worn on an attractive model.
   - **d.** If it is a packaged product, be sure the camera shows it close-up and from various angles—but do it subtly. People frequently forget names and remember the package.
4. Institutional television commercials can be effective, educational and entertaining (see Reichel Laboratories and War Bond Poster).
5. Don't be afraid to use comedy to sell. A laugh will help viewers remember a product (see Wildroot Cream Oil skits).
6. Select mood music to set the oral scene for the visual commercial message.
7. The length of a television commercial is still to be determined.
   - **a.** For the spot commercial, make it brief and intriguing. Let action speak for itself.
   - **b.** The half-hour commercial, such as Goodrich's demonstration of making a rubber substitute and showing its uses, challenges television's definition of what constitutes a commercial. More than likely such a program would be broken down into component parts for once-a-week showings.
   - **c.** The three and five minute skit will probably be comfortably established in the medium.
   - **d.** The "how to" commercial, using sponsor's flour or shortening in baking, will probably become an established custom in the format of the woman's show.
8. The value of repeating the commercial is a moot question.
   - **a.** Unlike radio spot announcements and stereotyped commercials, the visual commercial will seldom bear repeating, any more than a cartoon can be re-published regularly.
   - **b.** A format or style can be established which will give visual continuity to a sponsor's pictorial message.
9. Decide upon the sales message, then "picture" it with dramatic impact.

Unchartered Commercial Medium

Sight plus sound will make television the most exacting and the most productive of all advertising. Its possibilities are endless just as its variety of "picture selling" is infinite. It is advertising show business come of age and the use of television is advertising's greatest unproven field.

XXV

Films in Television

WHAT PLACE will films take in television? That is a question this handbook of television experience is not going to attempt to answer. Rather it will record what has been learned about using film in television.

The use of film in television falls roughly into seven categories:

1. Motion pictures made for movie theater presentation.
2. Amateur-professional travelogues and special film subjects.
3. Newsreels specially shot for television.
4. Special film footage used for story sequences.
5. Stock shots and film sequences used for special effects.
6. Constant use of film slides (and other slides).
7. Film recording a television program.

To date, the staff at WRGB, Schenectady, has had no experience with commercial motion pictures especially made for television since none have been available.

The television program schedule at the General Electric station is divided roughly into one-half live studio shows and one-half motion pictures.

Audience Reaction to Films

In a comprehensive survey made by WRGB in January of 1944, it was learned that one-quarter of the television set owners in the Albany-Troy-Schenectady area prefer motion pictures to live talent programs, but they want the movies to be of fairly recent release. Old sound pictures and silent films of the Ben Turpin or Charlie Chaplin type are not enthusiastically received.

In breaking down the types of motion pictures, it was learned that full-length features are preferred over movie shorts. Serial pictures are thoroughly enjoyed by some children and adults and are as thoroughly disliked by others of both age groups. Travelogues and documentaries appeal to televiewers.

Giving Studio Immediacy to Films

Adding the element of studio immediacy to a travelogue enhances its audience appeal especially if the show can be built around the personality who made the film. This was the case with *Fishing with Gadabout Gaddis* (see Chapter IV, page 21). Gadabout Gaddis had made a 16 mm silent film of his fishing trip in Canada and he accompanied its showing by a running commentary.

The same was true when Capt. Bob Bartlett, explorer, brought his film record to Schenectady (see Chapter XXIII, page 119). Televiewers were interested in seeing Capt. Bartlett, hearing his personal experiences and then seeing motion pictures of his ship, the *Morrissey,* on its voyage into Arctic waters.

There is an untapped source of amateur-professional films of this type which can make interesting programs. Museums, sporting goods houses, zoos and travel bureaus, to mention a few sources, probably have many feet of film which could be put to good use on television.

Television Newsreels

Television newsreels will eventually become one of the most popular forms of tele-news shows but under wartime restrictions only limited film footage has been used for this purpose. It is easy to list the few tele-newsreels made at WRGB.

A special newsreel of local Albany events was shot for the Albany *Times-Union* program (Nov. 5, 1943) when that newspaper was brought to life on television (see Chapter XI, page 56). The Winter Sports Carnival at Lake Placid was photographed by the studio motion picture department and rushed to Schenectady for telecasting the next evening (Feb.

2, 1944). This was a test to show how rapidly events can be covered by the movie camera and reported by television to the public.

The races at Jamaica and at Saratoga were both covered for special tele-newsreels. Stanley Woodward, sports editor of the New York *Herald Tribune,* incorporated the Jamaica footage in a sports talk. Woodward used the newsreel to point up the record-breaking attendance at Jamaica.

A motion picture cameraman and a producer from WRGB spent a whole day at the Saratoga Raceway making a harness racing film. They followed Sunny Eblis, a four-year-old owned by Leonard Bols, through a day at the races from morning grooming through a workout and the races. This newsreel was turned into a studio presentation, with Fred Eaton of the tracks being interviewed. The commentator who conducted the interview then took the home audience through *A Day at the Races* pointing up unusual items of interest about harness racing. The film was 16 mm silent. The commentator sat before a studio monitor with a table mike so he could fit his remarks to the film being shown. Commentary had all been previously prepared, checked and timed.

Film in the Studio Show

As film becomes available, more and more special footage will be shot to be included in studio shows. By means of film, movement can be injected into a show and lapse of time covered more effectively than is possible by continuous action in the confines of the studio. This was done for *The Sound Effects Man* (see Chapter VI, page 31), getting the characters smoothly from a radio station scene to the girl's home by means of a film sequence of an automobile ride. Film was also used in this same show to project by means of montage a passage of considerable time. The film sequence included shots showing the young couple horseback riding, swimming, playing tennis, skiing and motoring. The outdoor scenes were made by the studio's motion picture department and were edited and cut to fit the teleshow. A record of appropriate sounds was cut to back the montage film sequence.

Attention-Getting Effects

Film can help make a "talk" program. A special film sequence of a revolving world, showing the possible routes of attack on Japan was used as a novel, attention-getting opening to a map talk by Dr. Burges Johnson (Chapter XI, page 58). The film sequence was made by the studio's motion picture department. It took nearly a day to get animated effects of arrows shooting along the routes to Tokyo which went up into flames. The sequence lasted about 30 seconds on the air.

Film of Special Event

It would have been practically impossible to show *The Opening of Victory House* effectively without the use of film (see Chapter XXII, page 115). In this case the televiewer saw the bride and groom drive up in a jeep, walk up the path and cross the threshold of their new home. Film scenes showed plumber, electrician and telephone man hard at work, showing at the same time the layout of the rooms, their decoration and furnishings. Most of this, of course, could have been duplicated in studio sets but this would have involved considerable work and have lacked the on-the-scene effectiveness of the films. The studio portion of the show included interviews with contractors which naturally led into the showing of an FHA film on reconstruction of homes.

Use of Stock Shots

Television is making and will make great use of stock shots and film sequences for special effects. One of the first top programs at WRGB used stock shots to illustrate *The Strange Will of Charles Loundsberry* (see Chapter VI, page 29). Several days were spent looking at stock film to find appropriate scenes. The combination of symbolic pictures and carefully chosen music actually made the show.

Great use will be found for stock shots in reporting local and national news. For instance, on the New York *Herald Tribune* show, flood scenes of the previous year were used in reporting the 1944 Mississippi overflow. Until actual film footages can be obtained such related scenes will give picture emphasis to news.

The public service program, *Plasma at the Battle Line* (see Chapter XXI, page 112 and script on pages 178 to 181) depended for its effectiveness on the film sequences taken from the War Department's *Battle of Tarawa,* showing the beachhead attack, the wounded marine being carried away from

the firing line and the Red Cross field man administering blood plasma.

Stock film libraries are a necessary adjunct to a successfully run television studio. Film can frequently give emphasis to a studio show making it excellent entertainment.

Film Slides and Film Loops

Slides (film, opaque and glass) are probably used more frequently than any other visual effects at WRGB. Of the three types of slides, film slides are the most desirable although opaque slides (hand lettered or drawn on cards) form part of practically every program.

Photographs of people in the news, of places and of newspaper items can be shot on 35 mm film for easy inclusion in a news program. These stills can be arranged in sequence and cut in on cue. Having the slides on one strip of film eliminates chances of error.

Film slides can also make a show. In no other way could *The Life of Lincoln,* based on photographs from *The Photographic History of the Civil War,* be incorporated into one of the top telecasts (see Chapter XXII, page 114).

The many uses of film slides include film loops which can be kept in constant motion to be cut in on the show at will, intriguing titles, credits, enlarged map sections, photographs and other picture effects. The film loop is made of a piece of film from 3 to 12 feet long with the ends spliced together. The loop is threaded on the film projector and allowed to run throughout the show. A film loop of a swinging pendulum was used with the three-act play, *Time and the Conways,* for an intermission effect (see Chapter V, page 26). When Dorothy Parker's sketch, *Here We Are,* was telecast, the producer used a film loop of an onrushing train (see Chapter VI, page 32). In this case, a 25 foot loop was required to obtain the proper cycle of action.

Film Recording the Television Show

In order to make a permanent record of a television show, similar to recording a radio program, the television show can be filmed off a receiver. This has been done quite frequently but the film record at present is not in frame synchronization with the television picture sequence. Special equipment must be developed to solve the problem of recording the television picture which is scanned at 30 frames a second on motion picture film, which operates at 16 or 24 frames a second. The differential between these two speeds has been overcome in televising motion pictures but it is not as simple a problem to solve when the process is reversed. However, development work is being carried on so that film recording a television show from a receiver will be as common a practice as recording a radio show.

Film-Projection Room

The WRGB film-projection room is equipped with two 35 mm sound film projectors, one 16 mm silent film projector, one lantern slide (opaque, glass or film measuring 3¼ inches) projector and one film (35 mm) slide projector. The 35 mm motion picture projectors can be used as slide projectors. The motion picture projectors are converted to synchronize with the 30-frames-a-second televison system. Two cameras with iconoscopes and specially designed circuits pick up film images. These cameras, which are moved in front of the projectors being used and locked in place, provide two picture channels from the projection room to the control room.

Use of Film in Television

Summarizing the WRGB experience with film in television, the following basic factors are noted, based upon the previously discussed seven categories of film usages:

1. Motion pictures made for movie theater presentation used as television shows:
   - **a.** Audience Preference.
     - a-1. Full-length features of fairly recent release are most enjoyed according to audience reports.
     - a-2. Movie shorts, both fiction and cartoons, are second choice.
     - a-3. Documentaries and travelogues are also enjoyed.
     - a-4. Serials are a 50–50 choice. As many televiewers thoroughly dislike serials as those who thoroughly enjoy them.
   - **b.** Types of motion pictures liked least.
     - b-1. Old silent movies rank lowest.
     - b-2. Serials and Westerns are both liked and disliked (see Item 1 a-4).
     - b-3. British documentaries were listed

among those disliked in a recent audience survey. Perhaps this is because British documentary films were shown quite frequently during 1942 and 1943 when other films were not available to television. If they had been shown occasionally they probably would have been enjoyed.

c. Programming motion pictures.

c-1. About one-half the program schedule at WRGB is devoted to motion pictures in one form or another.

d. Equipment for telecasting motion pictures.

d-1. For 35 mm sound film, the studio is equipped with two film projectors. While one is running, film for another reel can be set up on the second projector ready to cut in on the air. This gives a continuous showing of a movie. The projectors take 2,000-foot reels giving a running time of about 20 minutes for each projection.

d-2. For 16 mm film—only silent film can be projected. The studio is not equipped with a 16 mm sound projector. The 16 mm projector can take 1,600 feet of film on a reel, providing a running time of approximately 70 to 80 minutes.

d-3. Live commentary or carefully selected mood music is used to back 16 mm silent films when used for a show.

e. Use of motion pictures on technicolor and kodachrome film.

e-1. 35 mm technicolor may or may not be satisfactory for black-and-white projection. Only a screening can tell. It is possible to get a color print which has little density separation except color. When such a film is translated into the gray scale it resolves into a monotone of gray with low contrast.

e-2. 16 mm kodachrome is normally satisfactory for television.

2. Film travelogues and special shorts made by amateurs or professionals can be incorporated effectively in television shows.

a. Travelogues and Shorts.

a-1. These films made by travelers, scientists and camera enthusiasts can be used to build a visual show around a personality, especially if the personality made the film.

a-2. They can be used as complete programs, with or without studio introduction.

a-3. Sequences of these films can be used for visual effects for special studio shows.

b. Documentaries.

b-1. There are many 16 mm sound film documentaries available, if the studio is equipped to handle them.

b-2. Organizations, educational centers, and government departments have many documentary films available for television.

3. Newsreels especially taken for television will become one of the top audience drawing features of television. People like to be at the scene of the crime or event.

a. Telecasting from the negative printing.

a-1. Newsreels can be shot, developed and telecast from the negative (no need to make a print). To do this the polarity of the film camera is reversed to make white come out black and black come out white, giving a positive picture on the television screen.

a-2. Telecasting a newsreel from the negative saves both time and money (positive printing).

b. Newsreel experience.

b-1. WRGB experience in shooting newsreels has been limited because of wartime film priorities. What newsreels have been shot by its motion picture department have been successful, notably the Winter Sports Carnival at Lake Placid and the local news coverage at Albany for the Albany *Times-Union* television show.

b-2. Films of public events can be incorporated into documentary shows. This was done in *The Opening of Victory House.*

4. Specially shot film footages give movement and continuity to a show in a most effective manner.
   a. Sequences for story continuity using performers who appear in the show.
      a-1. By shooting special scenes on film the producer of *The Sound Effects Man* was able to achieve an effect of the passage of time which could not have been accomplished picture-wise in the studio.
      a-2. Special events can be shot by a motion picture crew and incorporated into a studio show to give immediacy to an event. This was done in the case of *The Opening of Victory House.*
   b. Practice of shooting special film footages.
      b-1. The producer must use judgment in shooting special scenes for story effect.
      b-2. The practice will undoubtedly increase when film is available.

5. The television producer and writer can make great use of stock shots and film sequences for special effects and for reporting news.
   a. Use of stock shots and film sequences with news programs.
      a-1. Television newsrooms will find stock shots of invaluable aid in reporting local and national events. For instance, newsreels of similar events can be used in early flashes until current newsreels can be obtained.
      a-2. Stock shots of public figures will always be desirable to go with news headlines.
      a-3. Every television newsroom should have a morgue of stock shots to cover national figures for quick insertion in tele-news periods.
   b. Use of stock shots and film sequences in entertainment programs.
      b-1. Stock shots can be used to make a show dramatic, by giving it picture effectiveness. Example: *The Strange Will of Charles Loundsberry.*
      b-2. Film sequences taken out of motion pictures (the studio will have to buy the whole film) can focus visual interest in building a show. For example: The blood plasma injection scene from the War Department film, *Battle of Tarawa,* in the Red Cross program, *Plasma at the Battle Line.*
   c. Source of stock shots and film sequences.
      c-1. Stock shots and film sequences can be obtained from film libraries.
      c-2. The producer or writer may have to examine many prints before finding what he wants.

6. Practically every television program uses slides, in one form or another, for titles, dates, pictures, etc.
   a. Types of slides.
      a-1. Slides may be 1) film, 2) opaque, and 3) glass.
      a-2. Film slides are the simplest to handle whether 35 mm or 3½ by 4 inch.
   b. 35 mm film slides.
      b-1. In effect they are still photographs shot on 35 mm motion picture film. They are projected through the 35 mm slide projector or they can be run through the 35 mm motion picture projector, using it as a slide projector.
      b-2. Film slides can be run either in positive or negative. Still pictures can be shot an hour before the show, and developed and run in the negative, with the film camera polarity in reverse to give a positive picture on the receiver.
      b-3. Interesting title effects can be obtained with a 35 mm film loop. The film is wound through the projector by hand. This was done in the show, *Two Crooks and a Lady.*
   c. Opaque and glass film slides.
      c-1. These slides have an outside measurement of 3¼ by 4 inches, with a picture size of 2¼ by 3 inches.
      c-2. They are used with a slide projector, a WRGB engineering masterpiece which has grown from a regular lantern slide projector into its present versatile form, as producers have wanted visual effects and the engineers have contrived to accomplish results.
      c-3. Opaque slides can be drawn on paper

cards or pasted up in a few minutes by a staff artist. They are used for titles, cast credits, line pictures, intermission signs, etc.

c-4. Glass slides are used most frequently for permanent slides, such as test pattern slides. The glass slide must first be drawn and then photographed. A positive print is made either on thin film or directly on a glass slide. The film is mounted between two pieces of glass for protection.

c-5. Film slides of this size can be negative or positive prints. If a negative print is used, the film camera polarity must be reversed.

c-6. The slide projector holder is designed to take two opaque or glass slides so that they can be changed with the minimum of black level.

c-7. Opaque slides can be made as single cards or in long strips for horizontal pull-throughs. Interesting effects can be obtained with the horizontal pull-through slide. The lettering or drawing on each slide is made as a picture in itself with no separation line. This is to prevent any demarcation from showing in case a slide should not be pulled into perfect alignment.

7. Film recording the television program.

a. Present Practice.

a-1. Occasionally motion picture records are made of television shows.

a-2. Until special equipment is available for film recording the show in perfect synchronization from the television monitor, the resulting motion picture will show breaks between some picture frames.

b. Future Practice.

b-1. Motion picture records of television shows will be made as frequently as radio shows are now recorded.

b-2. Film records of television shows will be used to study actor performance and picture sequence.

b-3. Motion picture records of television shows, especially major productions, may be used for repeating the show.

Television producers are making great use of motion pictures, both as programs and as part of studio presentations. As the producer gains in experience he will find new and intriguing ways of utilizing film sequences, slides and stock shots for dramatic effect and movement.

Role of Motion Pictures in Television

Films will play a major role in television. It is safe to predict that future television programming will consist of about one-third studio shows, one-third remote pick-ups (mobile unit or distant permanent set-ups), and one-third motion pictures. These motion pictures may or may not be made exclusively for television. At first many of them will be motion pictures produced for movie theater showing.

The future holds many unknown factors which will determine the relationship of motion pictures and television.

XXVI

Production Agenda

As has been stated previously, the television producer works with story material, performers, scenery, pictorial effects, lights and cameras. How well he mixes these elements into picture composition and sequences determines the effectiveness of the show on the receiver and viewer-interest in the program. Chapter II outlines the steps involved in the production of a television show. Chapters III to XXV deal with the production techniques of various types of programs. This chapter will be devoted chiefly to the values of camera shots and some agenda on pictorial and transition effects, applause and rehearsal time.

Plotting Camera Shots

The producer plots his camera takes during the planning and rehearsal of a show, i.e., the visual scenes in picture sequence which he will employ to televise the program. These scenes will include pictorial effects and performer action. At WRGB there are five camera channels which the producer can use for picture-mixing purposes. The producer will consider the use of all of these channels when plotting his camera sequences.

Pictorial Effects

Pictorial effects may be used symbolically, dramatically, informatively or for story progression and movement. They may consist of props (such as a gun lying next to a decanter, or a magazine with pages being turned), poster sketches of the locale of a play, maps, and miniature models. These pictorial effects are shot by a studio camera, and the scenes mixed into the picture sequence of the show.

Other pictorial effects include the use of slides and film (see Chapter XXV, *Films in Television*). Slides may be photographs or sketches. They are used for titles, scene changes, actual photographs of people and places, and as illustrations. Film sequences may be footages from motion pictures, particularly documentaries, or stock shots, or they may be specially shot footages using performers of a show and incorporated into the studio production. All of these pictorial effects have been used in various program productions, notably in variety shows, dramas, musical programs, news and educational features. A film sequence was used to open a news analysis of *Allied Attack on Japan* (see Chapter XI, page 58). Also a specially-shot film sequence was used in the documentary program, *Opening of Victory House* (see Chapter XXII, page 115), and another specially-shot sequence was incorporated in the drama, *The Sound Effects Man* (see Chapter VI, page 31 and Chapter XXXIII which includes excerpts from the script originally written for television). Slides and film are telecast at WRGB through the two film-projection room camera channels.

Mixing Camera Shots

When televising a show it is important that the producer know the sequence of pictures to be seen on the receiver. He must indicate precisely on the shooting script how they are to look, when and how they are to be changed. Camera shots or takes from any of the five channels at WRGB may be switched or mixed into the telecast sequence by cutting, dissolving, lap-dissolving or fading. When to use these various camera switches is determined by the story or program factors and by the individual taste of the producer. In general, they indicate:

Cut—switching directly from one camera picture to another. Indicates no lapse of time. The cut is usually used for dramatic impact, such

as different views of a soloist, or different views of speakers or performers.

Dissolve in—bringing in one picture while dissolving out another—designates a short lapse of time (going from one room to another, or from one scene to another). The dissolve is also used for dramatic effect, such as dissolving from a photographic slide of a performer into the performer in the studio, giving the effect of a photograph coming to life.

Lap-Dissolve—holding two camera pictures at half-lap so that each is seen on the receiver screen—is used for trick effects, for transitional effects, for montage effects, and for establishing locale. The appearance and disappearance of the Cheshire Cat in *Alice in Wonderland* was accomplished through the use of the lap-dissolve (see Chapter V, page 26). To establish locale, the camera shot of a performer can be superimposed on a slide-photograph of a building.

Oblique or Diagonal Dissolve—holding one camera picture in the lower left-hand corner and the second camera picture in the upper right-hand corner, and dissolving them in on the air at half-lap—is used for trick or montage effects, particularly to show two people at different places talking to each other.

Lateral Dissolve—holding one camera picture in the left side of the frame, leaving the right side with a blank background, and holding the second camera picture in the right-hand side, and dissolving them in on the air at half-lap. The stage set background for oblique and lateral dissolves should be neutral and free of design so that people or objects are clearly defined when held at half-lap.

Fade in—gradually bringing up a picture from black level—indicates a definite beginning of something. Always fade in the title of a program and fade in the opening picture of a scene.

Fade out—gradually dimming a picture, i.e., going to black level—indicates a definite termination of something, such as a definite chapter or picture sequence ending. Always fade out the last scene of a play or program.

Camera Shots

The producer, when planning his camera shots, considers the composition of each picture and its pictorial effect in building or unfolding the dramatic sequence of a program. The picture-value of the scenes determines the type of shots that best depict those scenes and build the story to a climax. The producer can choose from a variety of camera shots. Television cameras are moved about during the televising of a program to view performers and scenes from practically any angle, from front, side or rear if so planned. The choice of camera shots (and their shooting script abbreviations) include:

The close-up (CU).
This is usually a head and shoulder shot, used to establish a person or object.

The tight or big close-up (TCU or BCU).
This is a head shot, used to show what a person looks like and to show facial reactions. BCU (big close-up) is used in motion pictures instead of TCU. The film industry does not use the phrase TCU.

The medium close-up (MCU or Med. CU).
This is usually a waist-low shot, used for action scenes, when the faces of the individuals are to be clearly seen.

The long shot (LS).
This is usually full length, used to establish a scene or group.

The medium shot (MS or Med. S).
This is usually a hip- or knee-low shot, used frequently for group shots.

The two-shot or 2-shot (TWO SHOT or 2-S).
This is a composition of two people or objects. It may be a close-up, medium shot or long shot.

Follow shot (FOLLOW or FS).
Following the subject about the stage set or off the stage set. This calls for accurate follow-focus on the part of the cameraman, otherwise the subject gets out of focus, distorting the picture. The follow shot may require only panning of the camera, or it may require dollying.

Dolly-in sequence (DOLLY-IN).
The camera is moved toward the performer

from a long shot to a medium shot or to a close-up while on the air. This requires smooth coordination between the dolly man and the cameraman. The cameraman must keep performers continually in focus.

Dolly-back sequence (DOLLY-BACK).

The camera is pulled back by the dolly man from a close-up or medium shot to a long shot. The movement must be smooth otherwise it results in a jerky picture sequence on the air. The cameraman must keep performers continually in focus.

Pan (PAN RIGHT or PAN LEFT).

The camera is turned horizontally to right or left over a scene or group, the cameraman keeping the people in focus. This may involve only the turning of the camera or it may involve dollying.

The pan shot is used to establish individuals in close-up in a group, the camera moving over and centering on each in turn. It is also used to establish the relation of performer to objects. For example, by panning from the villain to the gun on the table, the distance between the two is established.

Tilt-up (TILT UP) or Tilt-down (TILT DOWN).

The camera is aimed up or down in a vertical plane, either to show objects above the scene on the air or below the scene on the air. For instance, the height of a man can be established by first showing the home audience a shot or close-up of the man's feet. Then by tilting up (and dollying back slowly if necessary) the camera can show the dress and manner of a man, ending with a medium close-up of his face.

Boom-up and tilt-down shot (BU-TD).

The dolly boom-arm is raised and the camera is tilted down, getting an overhead or downward view of a subject. This shot is used effectively to show a pianist's hands in action on the keyboard, or to show objects lying on a table.

Boom-down and tilt-up shot (BD-TU).

The dolly boom-arm is lowered (it can be lowered practically to floor level) and the camera is tilted up, getting an upward view of a subject. This shot can be used effectively for close-up shots of speakers who insist upon reading from notes.

By the judicious use of camera shots, pictorial effects and camera switches, the producer can give movement and dramatic impact to a show, whether it is an entertainment or an informative program.

Rehearsal Time

At run-through rehearsals, the producer plans his camera shots and plans the interweaving of pictorial effects. During camera rehearsals he checks and establishes his final camera sequences, cutting and re-editing the show's production for telecasting. Once the show is on the air, it is too late to alter picture sequence. There are no retakes in television.

In general, there are three types of production jobs which studio shows receive—1) the impromptu or off-the-cuff production, 2) the show whose routine is established, and camera-takes planned, and which is given a run-through rehearsal with cameras, and 3) the thoroughly prepared and camera-rehearsed show.

1. The impromptu shows generally include sports programs, special event programs, music spots and talks. These shows should be assigned to a special producer who is experienced in handling camera work off-the-cuff. The producer usually has only time to check on visual effects (if any), determine the show's routine and give a minimum of instructions to performers before he takes over the producer's position in the control room and puts the show on the air.

2. The show whose routine is established and camera sequences planned requires a ratio of studio rehearsal time to air time of three to one. The show, however, depending upon its nature, may require some advance direction and rehearsal before being brought into the studio. For a half-hour show, an hour and a half should be devoted to studio rehearsal, concentrating on cues. The rehearsal should include one complete run-through with cameramen, dolly men, light operator and technicians.

3. The thoroughly planned and rehearsed show, whether musical, dramatic or informative, requires many hours of preliminary rehearsals

before being brought into the studio for camera rehearsals with full studio and technical staffs. Based upon the WRGB experience, these time factors are:

Advance Preparation and Rehearsal Time (hours)	*Studio Rehearsal Time* (hours)	*Air Time* (hours)
8	¾	¼
15	1½	½
30	3	1
45	4½	1½
60	6	2

Transitional Effects and Mood Music

Transitional effects and mood music between scenes of a show and between programs are vital production factors. Through their use, the producer is assured of a smooth-running show, blending scene into scene. Furthermore, appropriate transitional effects and change of music-tempo between programs serve to bridge the time-gap between shows and to prepare the home audience for the next offering, thus carrying viewer-interest over into the next attraction. Abrupt cuts from one program to another jar the audience and it usually takes some moments for the viewer to realize that he is watching a new show.

The producer can use pictorial effects, props or people for transitional continuity between scenes of a program. In the drama, *Time and the Conways,* the producer used a specially-shot film loop of a swinging pendulum, backed by mood music to introduce the title slides and to bridge the intermissions between acts (see Chapter V, page 26). Cutting to the studio announcer between programs is a simple method of achieving a transitional continuity.

Cuing, Prompting and Applause

The problem of cuing television performers, especially speakers, has not been satisfactorily solved. At WRGB, cues to start speaking are given performers by means of a studio light or by means of a hand sign. Occasionally a performer takes his cue from the red (on-the-air) light from the camera which is covering him. With the experienced performer, these cuing methods work fairly well but with the guest singer and guest speaker, it takes them a second or two to react to the signal. They are conscious of performing before a camera and the home viewer can see this moment of uncertainty.

The problem of prompting television performers is wide open for solution. The use of large-lettered scrolls, of a prompter at a blackboard and of painted signs have been suggested. It has also been suggested that scripts be projected onto a screen which can be easily seen by performers. These ideas, however, are still in the suggestion stage, primarily because the need to prompt is so seldom required. During complex dramatic and musical shows, a prompter has been assigned to some shows at WRGB. During most programs, however, the performer gets through his difficult "forgetting moments" as best he can, the producer and technical staff doing what they can technically to save the situation.

Applause should be part of certain types of television shows, especially the musical program. The home audience is accustomed to hearing applause following the singing of a number and applause is a pleasing sound to back the bow of acknowledgment by the singer or musician. The television producer today does not make full use of applause. He does not use his studio audience as part of the show's production as radio is doing so consistently. However, it can be expected that studio audience applause will be incorporated into television productions.

Picture-Perception

The television producer must have a keener perception for picture story-telling than the motion picture director. In television the picture-story is projected directly into the home in one continuous shooting. Consequently, continuity of script action must be carefully planned and thought out. The producer must make full use of transitional and visual effects, of cameras and music.

PART II

Backstage with the Engineer and the Producer

XXVII

How Television Works

MAN has always wanted to be in two places at the same time and now he can be by means of television. Tele is Greek for "at a distance." Vision, of course, means the "ability to see." Therefore, television is the ability to see at a distance. Man at home pushes a button on his television receiver and he then can see what is being televised in a studio many miles away, or he can be a spectator at a Yale Bowl football game or a parade down Fifth Avenue if a mobile unit is covering these events for him.

In television it is necessary to transmit about three million picture elements every second to produce a complete picture having acceptable detail and contrast range. Only one element can be transmitted at any one time, so in order to convert a light image into an electrical signal it is necessary to divide the image or picture into the smallest number of parts, which, when reassembled will result in an acceptable reproduction of the original. The process can be compared with cutting a photograph into very tiny pieces, sending the pieces one by one to the distance of the receiver, and assembling the pieces into the picture. Television does this by substituting an impulse for each piece of picture.

The Camera Tube

The diagram on pages 142-143 indicates schematically how television works. The studio camera is equipped with a vacuum tube, the most commonly used being the iconoscope, whose function is to reproduce the scene at which the camera is looking as a series of the electrical impulses described above.

In appearance the iconoscope looks like a round glass hat box at the end of a long glass neck. The hatbox contains a thin mica plate on which is a myriad of tiny photo-electric globules or "eyes" that are sensitive to light. These globules are separated by a very small distance so as to be insulated from each other. The scene to be televised is impressed on this sensitive mosaic screen by the camera lens and each globule of sensitive material builds up an electrical charge which varies in intensity with the amount of light which falls on it.

The Electron Gun

The electric charges contained by the globules must be removed from the screen at an extremely high rate of speed. Removal of this charge is accomplished by a fine stream of electrons shot from a filament located in the end of the glass neck of the vacuum tube. This stream of electrons may be regarded as a fine wire which moves rapidly, with a speed several times that of a rifle bullet, over the screen, picking off the electric charges which become the impulses repressing the pieces of picture.

Many metals when heated to incandescence possess the property of giving off electrons. The filament which produces the electrons in the vacuum tube is similar to the filament of an electric light bulb. The electrons are given off in random fashion by the filament but are focused into a stream by a series of grids spaced along the neck of the tube between the filament and the mosaic. These grids act on the electrons in a manner similar to that in which glass lenses control light and are, therefore, called electron lenses. The assembly of filament and grids is called the electron gun.

Movement of the stream of electrons over the surface of the mosaic to scan an image is accomplished by coils of wire, called deflection coils, which surround the neck of the tube and by the production of a magnetic field attract or repel the stream of electrons.

Scanning the Image

The pieces of picture must be removed from the mosaic in orderly fashion because it is necessary to reassemble them in the picture tube of the receiver in exactly the same order in which they are removed from the camera tube. The beam of electrons is moved

across or scans the mosaic from left to right, from top to bottom, line by line in exactly the same fashion as one would read a book. As each tiny globule on the mosaic is struck by the electron scanning beam, the element gives up its electric charge which rushes through the camera circuit amplifiers and over a multi-conductor cable to amplifiers in the control room. After scanning the first line it is necessary to return the beam to the left side to start the second excursion, and if suitable precaution were not taken the beam would remove the picture elements from the mosaic on its return trip. This is prevented by an electric pulse called a blanking pulse which shuts off or blanks the electron screen during this return trip.

In actual practice 525 lines are drawn across the screen to cover the entire area thirty times (30 frames) per second. It will be noted that the number of lines actually used to draw the picture is less than the 525 lines called for in the television standards. This discrepancy occurs because some of the lines must be lost in the time interval required to return the beam from the lower right-hand corner of the picture to the upper left, after it has finished one complete excursion of the screen. In a simple television system the horizontal lines would be drawn in order from the top to the bottom of the picture. In actual practice alternate lines are first scanned or drawn across the picture and the next excursion fills in the spaces between these lines. Thus, one-half of the picture is transmitted every $\frac{1}{60}$ of a second and one complete picture every $\frac{1}{30}$ of a second. This method of scanning, called interlacing, is used to permit production of high speed action without blur.

Broadcasting the Signals

At the control room the picture signal is monitored for picture quality (see Chapter XXVIII, page 146) and is strengthened by passing through amplifiers. The picture signal is then fed to a low-powered ultra-high frequency transmitter at WRGB, which relays it on television channel No. 8 (162–168 mc) to the main WRGB transmitter in the Helderberg Hills, 12½ airline miles away.

The sound which accompanies the television picture is picked up by a studio microphone and carried by wire to the control room, where it is monitored and routed to another ultra-high frequency relay transmitter and sent out with the picture signal to the main transmitter.

The sound signal is frequency modulated (FM) while the picture signal is amplitude modulated (AM).

The picture signal from the WRGB studio is received at the main transmitter and is converted from channel No. 8 to channel No. 3 (66–72 mc) by heterodyne process. It is then fed into WRGB's main 40-kilowatt picture transmitter. The sound signal is received on an FM receiver whose output feeds the main 20-kilowatt frequency modulated sound transmitter. These two signals are then broadcast to the station's service area.

Home Reception

At the home the two signals are received on the same dipole antenna and are separated inside the receiver. One signal operates the loudspeaker, which reproduces the sound picked up in the studio. The other signal actuates a funnel-shaped cathode-ray tube called the kinescope or picture tube. This tube reverses the process of the iconoscope, changing the electrical impulses back into points of light and shadow, thus recreating the original picture.

The Picture Tube

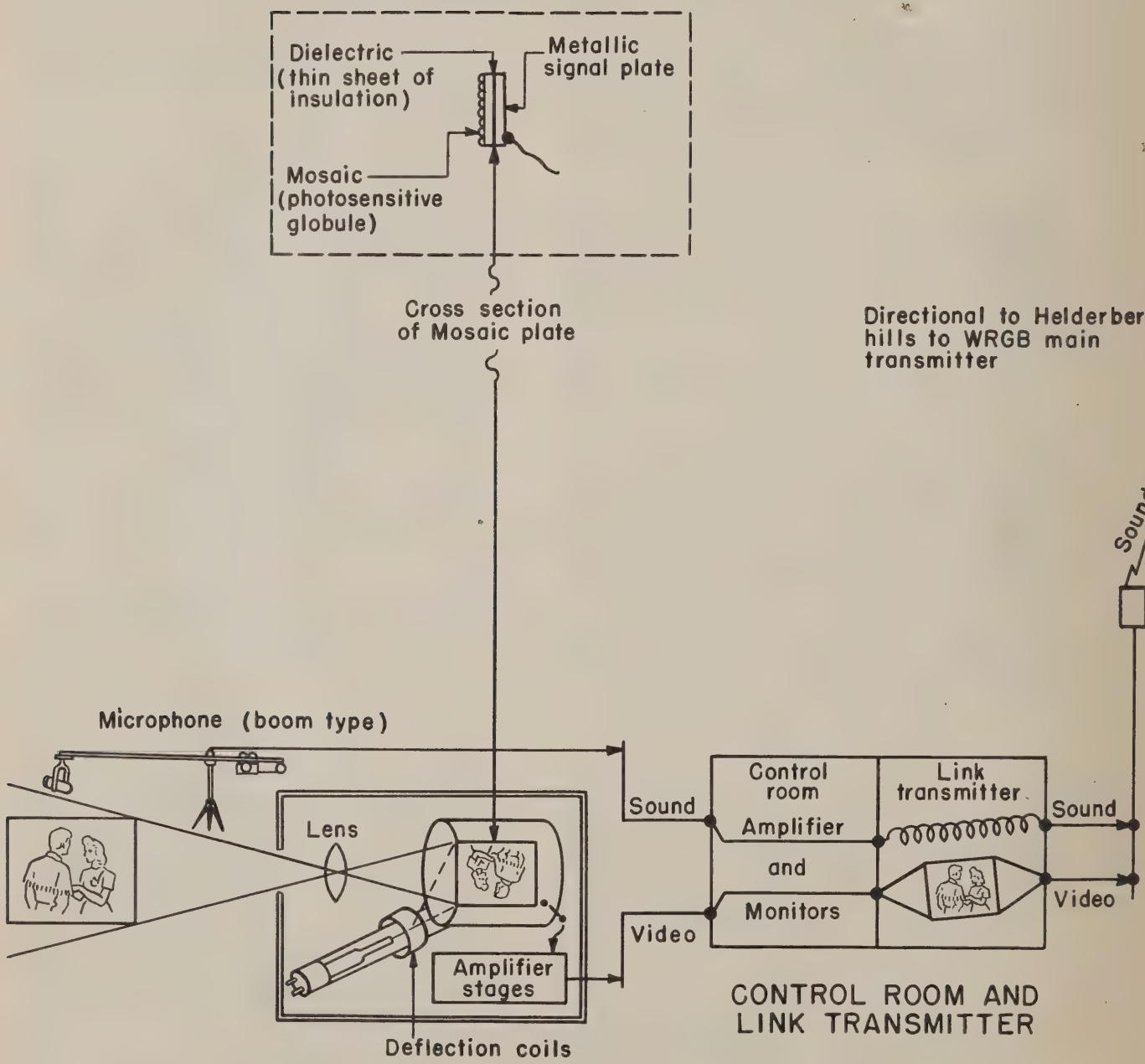
Here is how the picture tube functions to recreate a televised scene: Upon reaching the television receiver, the picture-carrying radio signal is amplified and fed into the picture tube, causing a beam of electrons from an electron gun in the neck of the tube to scan the screen or viewing end of the tube in exact synchronization with the electron beam in the camera tube, i.e.: the scanning is done line by line, from top to bottom, in the same alternate manner as the scanning at the iconoscope and is governed and synchronized by deflection coils.

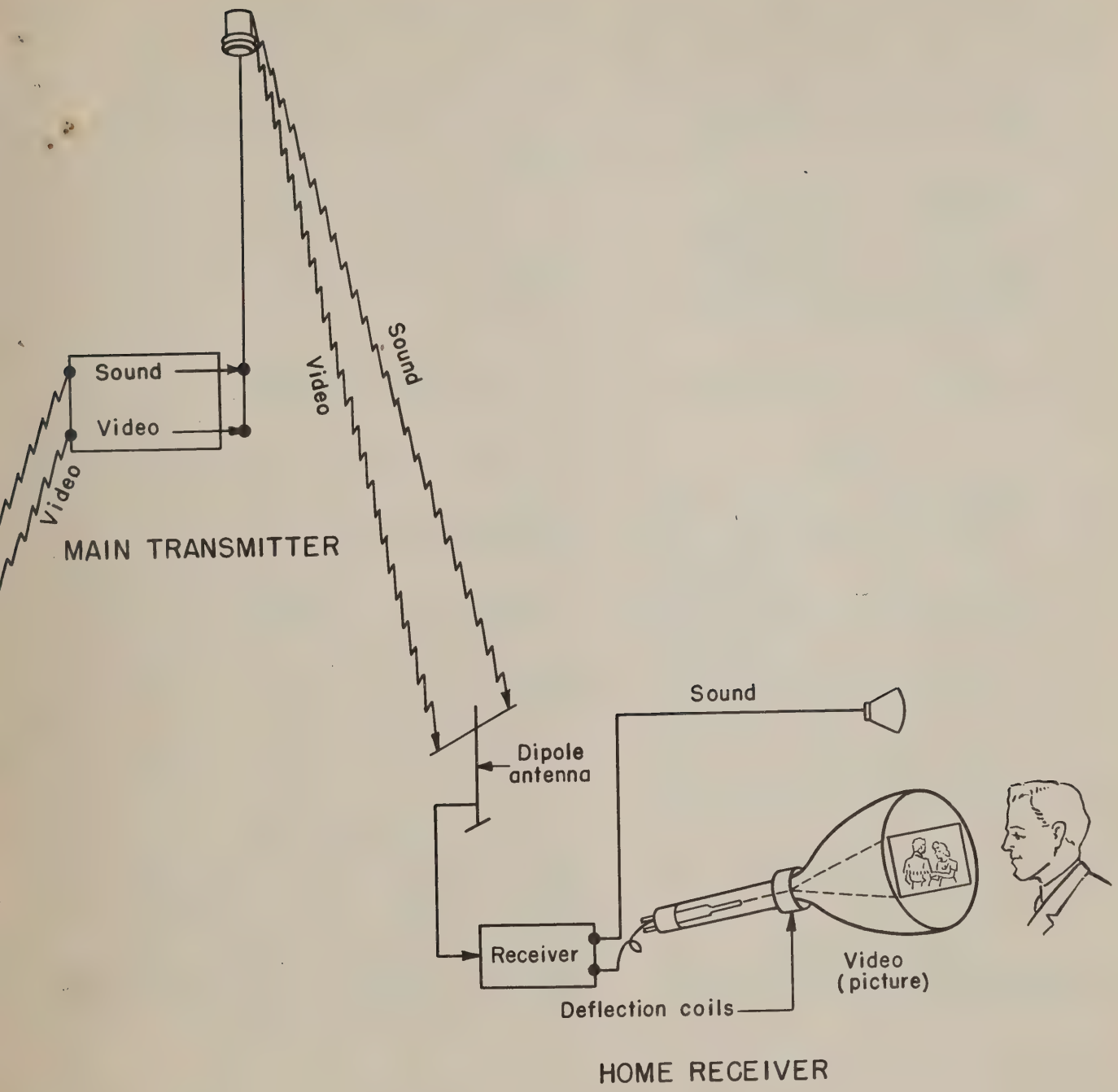
The receiver screen, at the large end of the kinescope (or picture tube) is frosted on the inside with a sensitive chemical, the same type as that used in fluorescent lamps. This coating glows when struck by an electron beam. The glow varies in intensity with the strength of the electron beam which is constantly varying as the incoming signal varies according to the original picture signal supplied by the camera tube. Thus the resulting picture is made up of points of light and shadow just like the original scene.

Synchronizing Electron Beams

Synchronization of the electron beams in the camera and picture tubes is achieved by electric im-

SCHEMATIC DIAGRAM SHOWING HOW TELEVISION WORKS




Sound
Video
Video
Sound
Video
MAIN TRANSMITTER
Sound
Dipole antenna
Receiver
Deflection coils
Video (picture)
HOME RECEIVER

pulses which are transmitted with the picture signal. These electric impulses through the deflection coils periodically coordinate the electron beam in the picture tube with the electron beam in the camera tube, bringing them back to the starting point together at the end of each line and at the end of each picture.

Spectator's Front Row Seat

Thus, through the science of electronics, man is able to participate in the making of contemporary history and to enjoy from an armchair–front row seat an evening of music or drama at the clicking-on of a switch in his television receiving set.

* * * * *

Some agenda of interest concerning the television system:

The Ion Burn

The brown spot frequently seen in the center of wartime television pictures is an ion burn on the picture tube screen. This is caused by the impact of a constant stream of negative ions from the electron gun as it strikes the picture tube screen. The electron gun generates not only the wanted electrons which cause the fluorescent coating of the screen to glow but unwanted negative ions as well. These negative ions are not appreciably deflected by the magnetic deflection coil system of the cathode-ray tube but pass down the center of the tube and impinge upon a spot in the center of the screen. Since they continually impinge upon this one central spot upon the screen, they kill or "burn" the fluorescent properties of the screen in this region, causing the ion blemish. Postwar tubes will be designed to remove these unwanted negative ions.

Station's Service Area

The high frequency and ultra-high frequency carrier waves assigned to television travel in straight lines, similar to light, and as they reach the horizon they keep on going off into space, departing from the earth. They do not bend to any great extent to follow the curvature of the earth as regular radio carrier waves do. Hence, television transmitters are usually built on the highest hill or mountain or tallest building in the area to be served. The service area covered by a television station may extend as far as 65 miles in any direction, depending upon the height of surrounding buildings and upon the topography of the surrounding land. However, the service area of a television station is usually within a radius of 30 to 50 miles.

Picture-Line Standards

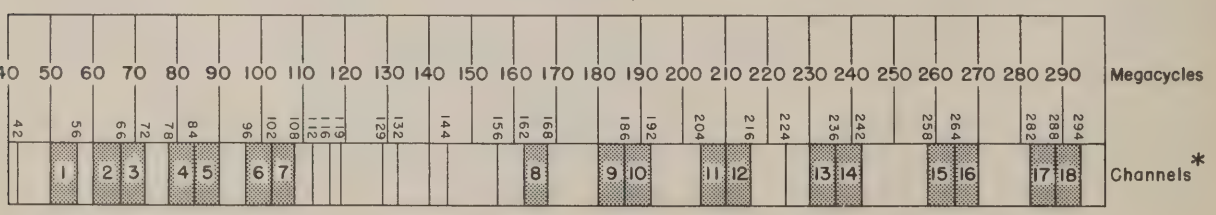
The present picture standard, as stated on page 141, is 525 horizontal lines. The first television pictures (produced by mechanical scanning) consisted of 60 horizontal lines and showed very little picture detail. That was back in 1928. The picture quality increased with electronic scanning to 343 lines in 1936 and in 1939, the 441 horizontal line standard was accepted by the industry. Television receiving sets were manufactured and sold based on the 441 line standard. When the present 525 horizontal line standard was mutually agreed upon in 1941, all sets in service were converted by manufacturers to receive 525 horizontal line pictures.

The line standard is determined by the region in the radio spectrum to which television is assigned.

The Radio Spectrum

At present commercial and experimental television operates in 18 channels in the 50 to 294 megacycle region. The television channel for each station is restricted to a band of six megacycles wide, in which must be transmitted both picture and sound.

The radio spectrum in the 50 to 294 region is allocated at present in the following manner.



*Channels numbered 1 to 18 are assigned to television. Channels 1 to 7 are assigned to present television broadcasting stations. Channels 8 to 18 are assigned to experimental television broadcasting.
Unnumbered channels are assigned to other services including government, amateur, aviation and miscellaneous high-frequency radio services.

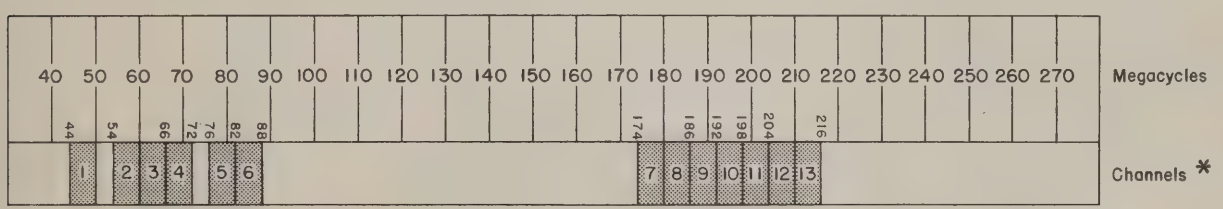
Postwar Television Channels

The Federal Communications Commission on January 19, 1945 and on June 27, 1945, reallocated the radio spectrum for postwar television and other services. Commercial television is assigned 13 channels between 44 and 216 mc., and high frequency experimental television is assigned space between 480 and 920 mc. (less 508–524 mc. temporarily).

Present operating television stations must be converted to operate on the new wave bands assigned to their channels. This conversion will take place before new television sets are placed on the market so that the public can receive telecasts.

The 13 channels, each six megacycles wide, between 44 and 216 mc. are allocated in the following manner:

Television	*Band*
Channel No. 1	44–50 mc.
Channel No. 2	54–60 mc.
Channel No. 3	60–66 mc.
Channel No. 4	66–72 mc.
Channel No. 5	76–82 mc.
Channel No. 6	82–88 mc.
Channel No. 7	174–180 mc.
Channel No. 8	180–186 mc.
Channel No. 9	186–192 mc.
Channel No. 10	192–198 mc.
Channel No. 11	198–204 mc.
Channel No. 12	204–210 mc.
Channel No. 13	210–216 mc.



*Channels numbered 1 to 13 are television channels.
Unnumbered channels and space are assigned to other services including amateur, aviation, FM, and miscellaneous high-frequency radio services.

Seven Stations Possible to a City

With these frequency allocations, it is possible for seven commercial television stations to operate in one city. Four of these stations can operate in the six channels below 100 mc., and three in the six channels available between 174 and 216 mc. One of the FCC rules governing television is: stations serving the same area will not be assigned channels adjacent in frequency. Thus guardbands are provided to prevent stations interfering with each other's signal. The alternate unused channels, however, can be assigned to stations serving other cities or areas adjacent to the larger centers of population.

High Frequency Television

Experimentation with the development of wide-channel high-frequency television is being and will continue to be carried on to make practical the transmission of color and higher definition monochrome pictures.

A VIEW of the WRGB control room looking down into the studio, shows the producer console and the picture monitor console. The young lady in the left foreground is sitting at the producer's desk. Next to her is the technical director (or video operator) who switches cameras on and off the air at the producer's direction. The sound operator is at his right. The producer has a clear view of the studio and of the monitor console showing the pictures held by each camera channel and the picture being telecast on the line monitor (fourth picture channel from the left). This photograph shows that camera No. 3 is on the air.

XXVIII

Studio to Control Room

TELEVISION is a veritable three-ring circus. The studio staff, the control room technicians and the projectionist in the film-projection room all keep their own acts going and at the same time coordinate their work for the smooth production of the show which the home audience sees on the television receiver.

How the various equipment in the studio, in the control room and in the film-projection room function and how they dovetail for telecasting is the story of this chapter. Since the producer is concerned with the studio first, we will start there.

WRGB Studio Equipment

At WRGB the studio is a large sound-proofed, air-conditioned room with a Hollywood air about it, with cameras on dollies, a boom microphone, racks of scenery, some stage furniture, ladders, pianos, and floor lights scattered about.

As explained in Chapter II (page 7), the studio is 42 x 70 feet with an 18 foot ceiling. A little more than half of it is used as playing area because of the location of the 12 overhead lights or luminaires, as they are technically called. These are water-cooled mercury vapor quartz lamps. The luminaires, controlled from a light bridge at the rear of the studio, can be rotated in a horizontal plane or in a vertical arc to direct the light on any part of the playing area. Four tripod-mounted floor lamps are used as additional light sources. These also are water-cooled mercury vapor units (see Chapter XXIX).

There are three cameras in the studio—two on dollies and one on a movable pedestal. They trail lengths of cable which are connected to outlets at the rear of the studio. It is by means of this multi-conductor cable that the cameras are connected to the control room. (See picture, page 156.)

A tripod on wheels supports the boom from which the microphone hangs, the boom making it possible to swing the microphone from performer to performer to catch every word spoken. The sectional boom arm is also adjustable, the boom operator being able to "reel" in the microphone or "feed" it to performers in the foreground or background of stage sets or from set to set without changing floor position. Regular table or floor stand microphones are used on occasion.

The mercury-vapor lamps, the cameras and the boom microphone are the technical equipment required in the studio for telecasting a show. Scenery and performers give composition to the pictures transmitted by the cameras to home viewers. Part I of this handbook has gone into show details. A discussion of the complexities of camera, lights and sound will be delayed at this time (Chapter XXIX being reserved for that purpose) so that the production details of a show can be traced through the control room and the projection room.

Direct Communication from Control Room to Studio

The complexity of getting a show on the air requires complete coordination among all persons in the control room, in the film-projection room and in the studio. Therefore, the producer and technical operators must have direct communication with cameramen, the boom microphone operator, the stage manager and the film-projection room to transmit instructions during rehearsals and during performances. Both one-way and two-way communication facilities have been provided.

The cameramen, the dolly men and the boom microphone operator all wear earphones so that the producer, the video operator and the sound operator in the control room can have direct contact with them during rehearsal or the telecasting of a performance.

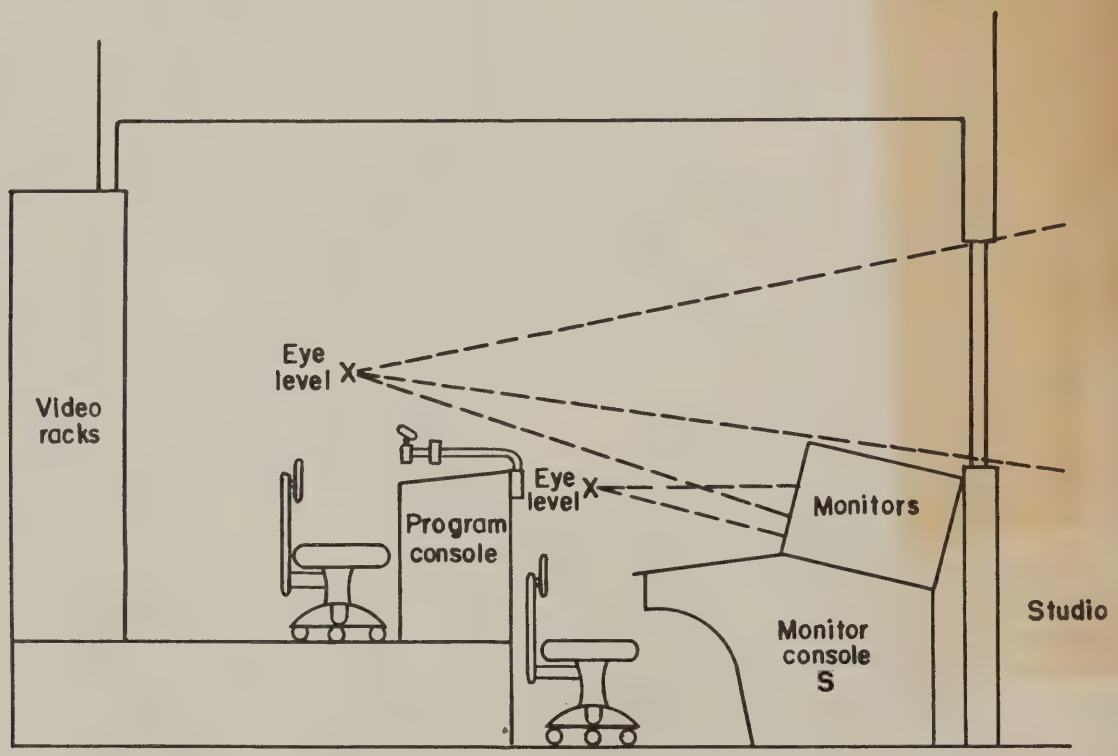
In addition, earphones are provided for the stage manager who works in close cooperation with the producer and who is on the studio floor during all rehearsals and performances. Provision also has been made for two-way telephone service from the control room to the studio, to the dressing rooms and to the film projection room. Full technical details of circuits and other engineering factors are described in the brochure, *Versatile Multichannel Television Control Equipment** by D. E. Norgaard and J. L. Jones of General Electric.

The WRGB Control Room

The control room is situated at the rear and is elevated above the studio floor. Double glass windows allow the operators in the control room a direct view of the studio. The projection room is directly off the rear of the studio and has no direct view of the studio floor. The projectionist takes cues from the video or sound operator who has direct telephone and cue channel connections with the projection room.

In the control room, the operating positions and the monitor console are arranged in two-step levels, the program console in back of and elevated about 18 inches above the level of the monitor console. This arrangement gives the producer and technical operators at the program positions a direct view of the studio through the window and at the same time, a direct view of the camera monitors. The monitor console is located just below the window. The monitors (showing the pictures held by each camera) are tilted upward in such a manner that they are visible to the producer and technical operators.

Here is an elevation view of the control room*:



There are three operating positions, side by side, at the program console: the producer's desk, the video operator's or TD's (technical director's) desk and the sound operator's desk. (See picture, page 146.) The sound operator has two turntables located at his right for ease of record playing.

At each position there is a microphone supported conveniently in talking position, and a telephone mounted near it, both well clear of the controls on the console top. The selector switches for the microphone over which the producer or operators can speak to cameramen, the stage manager, etc., are

**Versatile Multichannel Television Control Equipment* by D. E. Norgaard and J. L. Jones of the General Electric Radio Transmitter Engineering Department. Proceedings of the I.R.E., May, 1941.*

located for operation with the left hand. The selector switches for the telephone—two-way communication with the studio, film-projection room, etc.—are located at the right of the video and sound operators' positions. The producer's telephone is connected directly with a telephone in the studio.

The Producer's Position

The program producer's desk is equipped only with a studio-address microphone, a row of keys and a telephone hand-set. This leaves the top of the desk clear so that he can write camera directions or make notes on a script.

The top key on the left of the producer's position serves a dual communication purpose. During rehearsals it connects the producer with the studio loud speaker to direct performers while he is watching camera monitors for picture composition and sequence effectiveness. During production, it connects him with the stage manager's earphones.

There are four more keys in the row at the left of the producer's position. The next key connects the producer with the film projection room. The three lower keys connect the producer with the earphones of cameramen and co-working dolly men. The producer, therefore, is in direct communication at all times with the cameramen and can transmit camera instructions both during rehearsals and while the show is being telecast.

The producer gives his directions for switching between cameras and for takes, fades, cuts or dissolves or for cuing in film, orally to the video operator on his right.

The Video Operator's Position

The video operator's desk is next to the producer's and is designed to handle as many as six camera channels. There are five in operation at WRGB. The sixth channel is connected to a monoscope, a test signal generator, or is available for any special signal from any suitable source. The video operator can switch, fade or lap-dissolve between any two of the six camera channels. Switching is controlled by push buttons on the top of the console. There are two banks of six relays, each capable of connecting any one of the camera channels to one of the two faders or mixers which switch the camera channel on the air. Each set of relays is interlocked electrically so that no channel can be selected on both banks at the same time. Pressing a particular push button in the bank causes a relay to pick up and hold the camera picture on the air. The faders or mixers are mechanically interlocked so that if one is fully in, the other is entirely out. This means that the picture on one camera channel can be dissolved in over a picture on the air and held at any desired ratio. Fading one camera to maximum picture contrast, simultaneously reduces the other to zero.

The video operator has direct communication by loud speaker with the studio, film projection room and dressing rooms. He also has two-way communication by telephone with these same locations. In addition, the video operator can speak directly through earphones to the three cameramen and to the stage manager in the studio. One or more of the selector switches for both the one-way and the telephone system may be locked in at will by the operator to allow instruction to several points simultaneously.

The Sound Operator's Position

The sound position has loud-speaker connections to the studio and to the film projection room. The sound operator can speak directly to the microphone boom man and to the stage manager over their earphones. The position is also equipped with telephone connections to the studio, the film projection room and to the dressing rooms. This position has selector switches which can be locked in at will for transmitting instructions to several points simultaneously.

The sound or audio operator watches output level, monitors both studio and film sound, and is responsible for operating the turntables and cuing-in music.

There are four microphone channels: one for transcriptions, one for film pickup and two for studio use. Any channel may be used for either broadcasting or rehearsal. It is possible to show a film and at the same time hold a rehearsal or audition in the studio. Conventional audio control equipment is mounted on the sound section of the program console.

The producer, video operator and the sound operator work in cooperation for both picture and sound in getting a show on the air.

The Monitor Console

The quality of the pictures is monitored by an operator at the monitor console, which is arranged in units, one for each camera channel. Each monitor

unit contains a 12-inch diameter white-screen picture tube and a 3-inch diameter wave-form monitor. Monitor controls appearing on the sloping front panel allow independent control of picture and wave-form, including brightness, contrast, size, centering, etc.

The picture quality controls for each channel are located on a hinged desk-top panel in front of each channel monitor. The monitor engineer watches for picture quality, sets electrical focus, and horizontal and vertical centering. Other picture quality controls govern contrast, black-level and shading.

The shading operator has no direct view into the studio. He watches the channel picture and wave-form monitors, critically appraising picture quality.

The camera channel monitors are plainly marked by large annunciator-type illuminated numbers which correspond with the camera numbers. The first three (Nos. 1, 2, and 3) are associated with the cameras in the studio. The fourth monitor shows the picture which is being telecast. The fifth and sixth monitor positions are associated with the cameras in the film-projection room (cameras No. 4 and 5) which are used to project motion pictures, film sequences, film slides, and opaque or glass slides.

The Film-Projection Room

The two 35 mm film-projectors are converted to project the 24-frames per second motion picture film in synchronization with the 30-frames a second television system without change in sound quality. The television frame frequency is a sub-multiple of the frequency of the supply voltage. Roughly stated, the projection of the 24-frames per second film at the rate of 30-frames a second is accomplished by employing a varying frequency of projection, alternating between 30 and 20 frames per second in such a manner that the average film speed remains 24 frames per second. In effect, alternate film frames are held in the projection aperture 50% longer than the others. Complete technical details of the General Electric television motion picture film projector are described by its designer, Ellsworth D. Cook, in his article on the *G-E Television Film Projector* which originally appeared in the October 1943 issue of the *Journal of the Society of Motion Picture Engineers.*

The two 35 mm projectors allow the running of motion pictures in continuous sequence. While one reel is running on one projector, the second projector can be made ready to be cut in on cue. The 35 mm projectors take 2,000-foot reels, with a running time of about 20 minutes.

The 16 mm projector can take 1,600-foot reels providing a running time approximately 70 to 80 minutes.

There are two iconoscope cameras (Nos. 4 and 5) especially equipped to work with the projectors for the transmission of film or slides. The cameras are movable and can be moved in front of, and locked in position before, the projectors used. Consequently, two picture channels are available from the film-projection room. These are associated with monitors 5 and 6 on the monitor console in the control room.

Slides

Film slides are the simplest to handle. In effect they are still photographs shot on 35 mm motion picture film. Film slides can be spliced together in the sequence in which they are to be used in the show. They are projected with a 35 mm strip film or slide projector.

Either positive or negative film slides may be used. Normally the output polarity of the video from the film camera is for positive film. For negative film, the video output polarity from the film camera is reversed, so that white comes out black and black comes out white, giving a positive picture from negative film on the screen. This versatile arrangement is particularly helpful when showing newsreels shot by the station's motion picture crew. The film needs only developing (not printing) before being telecast. Producers also use this equipment feature for special effects: i.e., shooting stills of performers and using the slides to achieve a "coming to life" effect by dissolving in the performers through the slide pictures. Rapid film developing processes allow these pictures to be taken only an hour before performance.

The lantern slide projector is used for opaque and glass slides, and for film slides of proper dimensions. This slide projector was originally a regular lantern slide projector but it has grown in versatility as producers have wanted visual effects, and the engineers have contrived ways to accomplish results. The slide holder can be loaded with two slides so that slides can be changed with minimum of black level—the few seconds it takes to hand-pull the second frame into position.

The opaque film and glass slides used with a lantern slide projector have an over-all dimension of 3¼ by 4 inches, with a centered picture limit (information to be seen) of 2¼ by 3 inches. With opaque slides, the polarity of the horizontal sweeps in the camera must be reversed to compensate for reversed picture reflection. Since the lens in the projector projects a reverse image backwards (light can not pass through an opaque slide) on the camera tube mosaic, the horizontal sweeps in the camera must be reversed to adjust for this condition (so that the writing will read from left to right). Producers must always allow time for reversal of sweeps when using opaque slides. This takes but a few seconds but, on occasion, may be important.

Glass slides are of course stills. Scenes, drawings, newspaper clippings, pictures, etc., are first photographed. A positive print is made on thin film or directly on a glass plate of correct proportions. The film is mounted between two plates of glass or the print on the glass plate is protected by a second piece of glass. The two pieces of glass are mounted together by tape around the edges forming the glass slide. Glass slides are made most frequently for permanent images such as test pattern slides.

During a show the projectionist must be alert for cuing-in motion pictures, film sequences or slides. He must be agile to change cameras from one projection port-hole to another as required. He takes his cues from the video operator or, in rehearsed and planned shows, from cue sheets.

Coordinated Production

The versatility of this multichannel television installation makes it easy for the action in the studio, in the control room and in the film projection room to be coordinated for a smooth flowing television performance. The technical and production details behind the scenes turn television into a veritable three-ring circus with the producer cracking the whip.

XXIX

Lights and Cameras

Lights and cameras, the essentials of any form of photography, present their own peculiar problems in television, the science of electronically "photographing" scenes and events and sending them through the air for home reception enjoyment.

The television engineers were first concerned with the technical aspects of both lights and cameras. Even producers and program-staff men have concerned themselves more with developing production techniques and not too much with the problem of lighting stage sets for picture composition. However, in late 1944, experimentation with additional light sources for rim-lighting and back-lighting was started, but the experiment will not be discussed in this handbook which covers WRGB's five years of operation from November 1939 to October 1944.

Lights and cameras after the war will solve many production picture problems faced today in television studios operating with prewar facilities. Lights, postwar, will be under better control but the problems of spotlighting, flood-lighting, cross-lighting and back-lighting subjects and scenes for modeling and key-illumination will be similar to those experienced during the experimental years. Postwar cameras, too, will be greatly improved, with camera tubes more sensitive so that lenses can be stopped down, thus achieving greater depth of focus.

Light Source at WRGB

The primary function of light in any photographic operation is to give sufficient illumination to enable the film or the mosaic to reproduce clearly the subject being photographed. That is the reason why such a high level of general lighting has been used in all television work to date.

At WRGB, the water-cooled mercury vapor lights —an exclusive G-E development—provide a high level of general illumination without heat. Performers experience little or no discomfort under these lights.

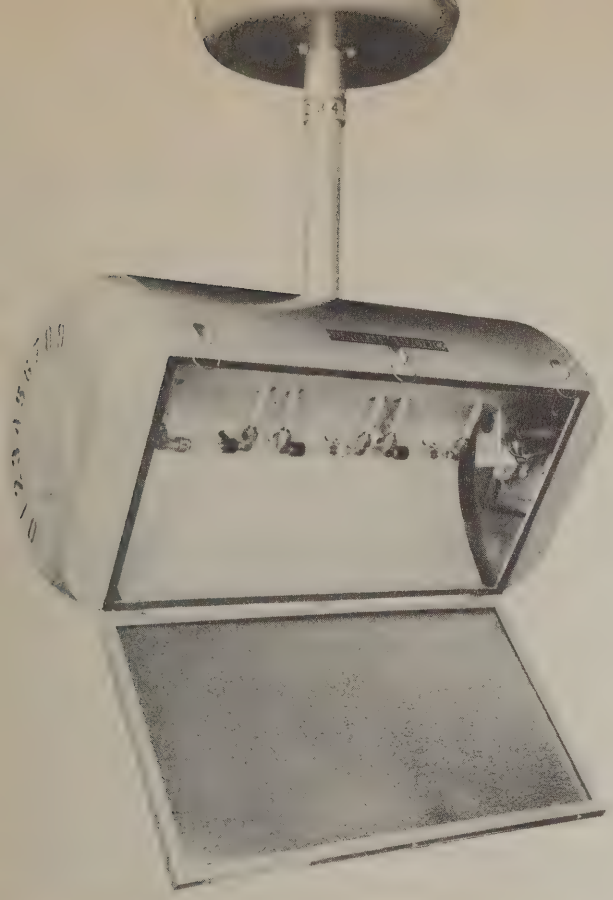
Twelve (12) water-cooled mercury vapor lights, or luminaires, are mounted in the ceiling in the forward section of the WRGB studio, in staggered rows, 9½ feet apart across the building and 6½ feet apart along the building. They leave a 14-foot clearance for scenery, cameras and microphone boom.

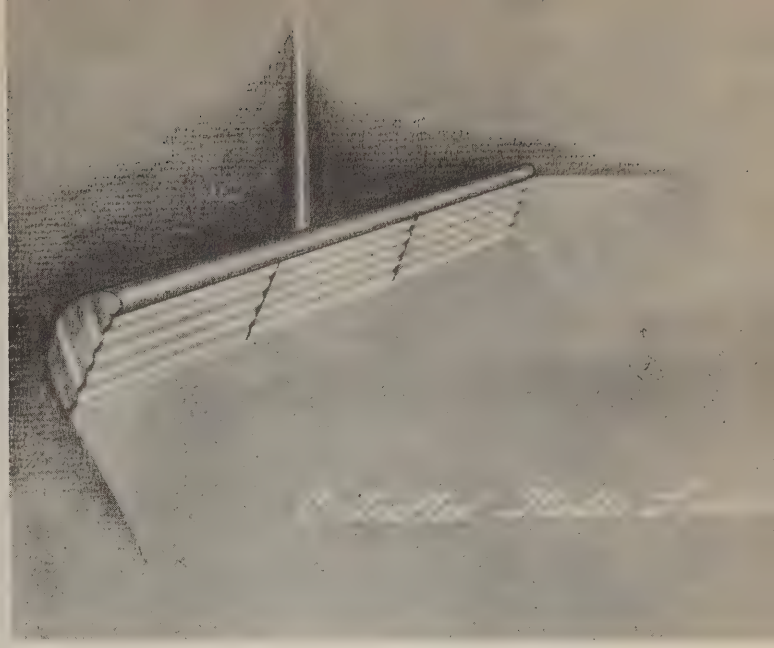
Water-Cooled Ceiling Lights

In each luminaire or ceiling light at WRGB there are three mercury vapor quartz capillary lamps, rated at 1,000 watts each (see picture 1, page 153). These capillaries, arranged in line horizontally across the unit, are connected in series with the city water system. A flow of about 4 quarts of water per minute passes through each unit. As a safety measure, the water circuit is electrically interlocked with the power supply so that without water the lamps cannot be started.

The luminaire, a half-cylinder reflector, is suspended from the ceiling on the curved side. The flat side or light opening is covered by a door of Peblex diffusing glass. This opening measures approximately 21 inches wide by 33 inches long. The units are lined with polished chrome-plated copper reflectors which have some directional quality.

These light units can be rotated by remote control in a horizontal arc of approximately 360 degrees (one complete turn) and in a vertical arc of 150 degrees (90° on one side and 60° on the other). The horizontal driving motor is installed in a canopy mounted against the ceiling and a second motor for vertical rotation is mounted inside the reflector housing. Thus the lamps can be directed to floodlight almost any portion of the studio within the playing area.





▲ **ARTIST'S sketch of G-E's studio light of the future with controlled radiation, based upon existing units now in use (see opposite picture).**

◀ **A VIEW into the casing of a present G-E water cooled mercury vapor ceiling light in use at WRGB, showing the capillary assembly. (See description on opposite page.)**

Postwar Luminaire

A postwar version of this G-E luminaire (see picture 2) will incorporate more directional features. In addition to tilting and turning, this unit can be lowered and raised and the intensity of radiation controlled. The minimum lighting source recommended when materials are available, is one 3 kw ceiling lamp for each 75 to 100 square feet of playing area, to provide over-all ground lighting. Spot lights and floor lamps should be added for modeling and highlighting.

The Light Bridge

The light bridge from which all mercury vapor ceiling lights are controlled is located at the far end of the studio, giving the light operator a bird's-eye view of the playing area for directing the ceiling lights as desired. The mercury vapor floor lamps are also turned on from the light bridge.

Floor Lamps

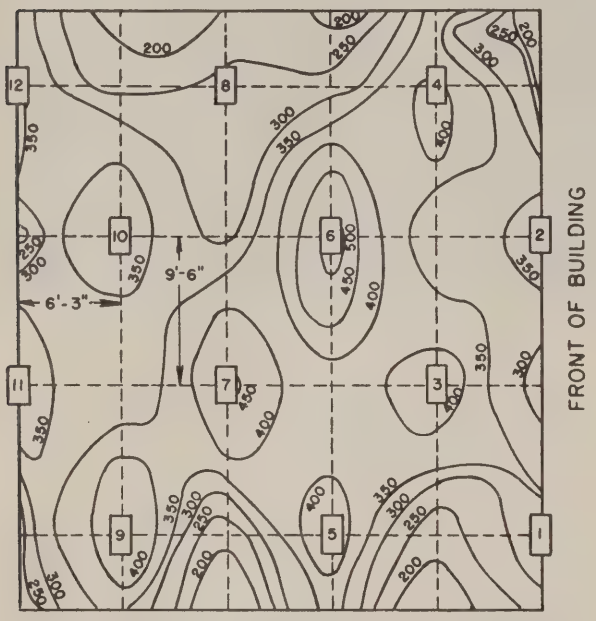
In addition to the ceiling lights there are in use in the WRGB studio four water-cooled mercury-vapor floor lamps. Three of them are mounted on adjustable tripod stands which are easily moved about. The fourth one is mounted on a low movable base about a foot off the floor, giving a foot floodlight source excellent for lighting announcers or speakers.

In each floor lamp unit there are three mercury-vapor lamps or capillaries, arranged on an equilateral triangular mount of about 1½ inches per side. These floor lamp units are circular in shape and have a Peblex diffusing glass door.

Light Levels

Tests made of the light-output performance of the overhead mercury vapor units by H. A. Breeding of the Illuminating Laboratory of General Electric, show that the average light level with all the floods pointed downward and oriented with the long axis of the reflector across the room was 315 foot-candles. His tests further showed that it is possible to build up the intensity over a 10 by 15 by 10-foot high scene to 650 or more foot-candles of general lighting, with the upper portions of the scene reaching 1,000 foot-candles. By supplementing this lighting with floor lamps, good pictures are produced with little or no discomfort to the performers.

The light performance chart reproduced below is from Mr. H. A. Breeding's *Mercury Lighting for Television Studios* originally printed in Proceedings of the I.R.E.—Vol. 31, No. 3, March 1943.



Isolux chart of studio illumination. Type L-71 Novalux water-cooled floodlight with 3 A-H6 Mazda lamps. Nominal input 3,500 watts.
Mounting height to light center 14 feet, 8 inches.
Total lighting load 40 kilowatts.
Average illumination at floor level 315 foot-candles.
Illuminated area approximately 1,500 square feet.
Lumens per watt per square foot of illuminated area 11.8.
Average age of lamps at time of test 20.8 hours.

Basic Light Experiments

No extensive light tests to establish reference light levels for studio sets under performance conditions were made during the five years of telecasting, although Worthington Miner of CBS and Paul Adanti of WRGB did spend a week experimenting with the WRGB mercury-vapor lights. The report of their findings in achieving pictorial qualities is interesting and adds basic information to the problem of lighting in television.

Starting out on the thesis that a certain minimum quantity of light is necessary in every visual medium in order to secure adequate visibility and that in dramatic lighting certain emphasis must be made in order to augment basic clarity with an accent conditioned by the focal center of interest, Mr. Miner concluded that it is the obligation of good lighting to supply light and shade without loss of clarity and in varying proportions according to the quality of the subject matter itself. There must, therefore, be: a) enough light, and b) a control of light.

To achieve the effect of depth which light should give a picture, Mr. Miner and Mr. Adanti considered the playing area zones: 1) foreground, 2) middle ground and 3) background.

They found that an even intensity of light distributed over these three zones tends to blend them into each other, resulting in a flat image and the type of light used to produce this effect is a flat (or general) light. In order to obviate the drab effect of the flat light it is necessary to control the quantity and angle of light as it strikes the three zones so that the degree of illumination in each area is clearly differentiated from that of the adjoining area.

Light level readings for the various 12 overhead light units made at floor level during this test varied from 750 foot-candles maximum down to approximately 120 foot-candles minimum in a horizontal throw. In order to reach 750 foot-candles with the floor lamps, it was necessary to close in to only three feet from the unit (as against the 14-foot throw of the overhead units). Obviously, therefore, these floor units must be in as close as three feet from the subject in order to effect any appreciable highlight against the general illumination from overhead.

Mr. Miner first determined the basic lighting of the middle ground of a set, selecting arbitrarily a figure of 500 foot-candles. This area was lighted almost directly from overhead, so as to spill over as little as possible into the other areas. The foreground and background were lighted in a higher key, approximately 700 to 750 at waist height. The result was a clear picture which lacked depth and brilliance.

Three to One Ratio

Through experimentation, it was found that good results were achieved when this background was reduced to approximately 200 to 250 foot-candles, while the foreground remained at 750. This is a differential of three to one. Better than satisfactory pictures again resulted when the background was built up to 750 foot-candles, while the foreground was reduced to approximately 250 foot-candles. The three to one differential worked in reverse, giving depth to the picture although modeling was lacking.

To Achieve Modeling

To achieve modeling, the basic foreground light was reduced to 500 foot-candles. A floor lamp was moved in from the right to build up a directional highlight of 750 foot-candles. Certain overhead lights were re-angled to achieve an even 500 foot-candles directionally from the left. Immediately the quality of modeling changed. The subject's face and figure were no longer in single tone but there were marked gradations and noticeable highlights.

As a matter of refinement, the unit lighting the middle ground was angled diagonally across the background, and directed to the floor. The unit at the back, which had been lighting the background, was tilted forward into the foreground. This created a highlight of approximately 650 foot-candles on the back of the subject, but its spill left a reading in the middle ground at the same constant of 500. The background took on tonal quality, and varied from approximately 350 foot-candles in one area down to as low as 150 foot-candles in another. By remote adjustment of the middle ground light, it is possible, with sufficient care, to achieve a darker gradation for the section of the background located behind light objects in the foreground, and lighter gradations as background to dark objects in the foreground.

It was further discovered that a semicircle of light surrounding the playing area and directly above the camera creates a screen of light that adds to the brilliance and definition of the television picture.

Lighting the Studio Set

Lighting the television stage sets at WRGB has been based on the principles learned during this test, the most important light features being:

1. Placing the main playing area well forward from the background is the most effective aid to good lighting. Placing subjects too close to the background so that the light ratio between the two are practically one to one, tends to make the background too bright to allow the subject to stand out and also makes the subject look dark in comparison to it.

2. Establish a basic foot-candle reading in the middle playing or stage set area.

3. A ratio of one to three is a good working average between background and foreground.

4. Whenever possible the middle ground should be basically lighted as a spill-over from back light on the foreground.

5. Wherever possible an arc of light should be maintained all around the acting area. It reflects light and generally touches up the stage set.

6. Directional highlight is obtained with the floor lamps and by angling overhead lights. A modeling light ratio of $1\frac{1}{5}$ to 1, about 550 fc. on the subject's left side and about 500 on the right.

7. The foot floor lamp is used to highlight announcers or relatively constant sets (not much moving about). The floor lamp helps remove under-eye shadows which tend to appear as black blobs in the television picture.

8. Floor lamps placed a little behind and to the side of the subject achieve excellent modeling.

9. Color in stage sets has an important relationship to mercury-vapor light in achieving dimensional qualities and modeling. (See Chapter XXX.)

Balance of Illumination

The balance of illumination of stage sets, performers and properties should be determined by actual foot-candle readings. The studio should be equipped with a light meter to determine:

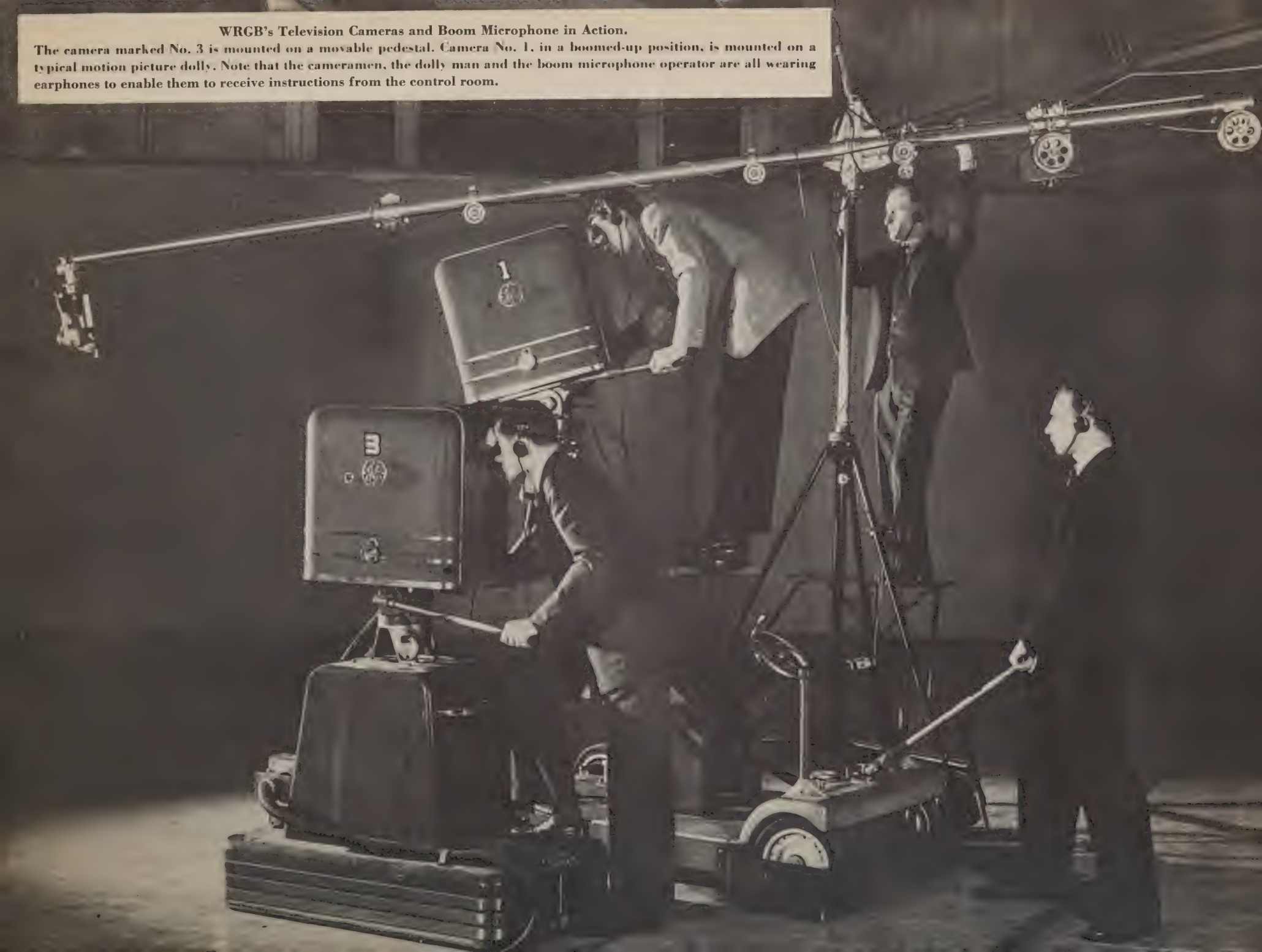
1. Brightness of faces, costumes, scenery and outstanding props.

2. Reference levels of brightness on the gray scale under fixed known illuminations.

Effects Achieved by Lighting

By applying these brightness factors to lighting studio sets the light man can avoid particularly the unhappy circumstance of having performers fade into backgrounds or become dark blobs without facial definition.

By the careful manipulation of lights, even with limited light sources, model lighting and highlighting can be achieved. Silhouette lighting though does



WRGB's Television Cameras and Boom Microphone in Action.
The camera marked No. 3 is mounted on a movable pedestal. Camera No. 1, in a boomed-up position, is mounted on a typical motion picture dolly. Note that the cameramen, the dolly man and the boom microphone operator are all wearing earphones to enable them to receive instructions from the control room.

require directional spotlighting, a difficult lighting arrangement to obtain with flood-type light source. Silhouette lighting is especially required for the linear rhythm of the dance.

A Light Chart for Shows

A light chart showing direction and placement of light units for every scene should be made during final rehearsal of all shows. This is not normally done under experimental conditions but must eventually become a part of television production, the light script cue sheet taking its place in importance along side the producer's, the technical director's, and the sound operator's shooting scripts and the film-projection room's cue sheet.

Controlled Lighting of Tomorrow

Light sources, after the war, promise control of focus and direction. General Electric has announced that the overhead mercury-vapor lamps in addition to their present directional flexibility will be equipped with shutters in the face of the lamp to vary the amount of light intensity. Undoubtedly spotlights and other light sources will be developed with special application to television studio.

The knowledge gained in lighting television productions gives a basis for future operation with controlled light sources. Unlike motion picture lighting which subjects performers to a high degree of heat for a short time, television lighting must give the same quality of light without excess heat, since television is a continuous operation while motion pictures are shot in short takes, few of which ever run as long as ten minutes.

* * * * *

The Television Camera

To all outward appearances the television camera resembles somewhat the Hollywood motion picture camera. It is housed in a rectangular case, mounted on a dolly boom (see picture on opposite page). This case contains, instead of film, an iconoscope or camera tube, the heart of the electronic television system.

How the camera tube changes light into electrical charges has been described in Chapter XXVII, *How Television Works*. Mounted with the tube in the camera case are associated electrical circuits such as sweep amplifiers and a video amplifier. In addition to these circuits are the all-important lenses, focus control and view finders.

Television is a dynamic medium. It requires rapid meshing of all personnel and equipment for a continuous smooth-flowing shooting of a studio performance. Cameras must be moved about for angle shots, for close-ups and long shots, and must be moved from set to set as called for by story action. The television cameraman must follow focus constantly since he is "photographing" a show as it is taking place, scene after scene, to the show's conclusion.

Cameras, Postwar

Cameras, postwar, will be designed to meet all these operating conditions. James D. McLean, commercial engineer of General Electric's Electronics Department, describes cameras postwar: "The operator sits in a comfortable seat and has the camera directly in front of him in a normal position. The camera has turret lenses and can be tilted and turned by moving the control wheel. The camera dolly itself is self-propelled and is controlled by the operator by means of foot pedals." Most important, though, will be the advances made in the design of iconoscopes or pickup tubes which will be more sensitive to light so that cameras can be operated with stopped down lenses.

But those are postwar cameras.

Cameras at WRGB

At present, WRGB is operating with three studio cameras: two on dollies and one on a movable pedestal (see picture on page 156). The main features of these electronic cameras are:

Lens System: Cameras are operated with lenses wide open. Two cameras are equipped with wide-angle, f 4.5 lenses, with 6¾ inch focal lengths. This lens system is excellent for long shots when it is desired to hold a broad scene or to hold groups. The third camera has a narrow-angle, f 3.5 lens, with 10 inch focal length, which is excellent for close-up work. These close-ups can be obtained with the camera about four to six feet from the subject.

View Finders: All cameras are focussed visually. One camera has a double lens system. One lens

performs the regular function of focusing the scene on the mosaic of the iconoscope and the second lens projects the image of the scene on a ground glass parallax-corrected view finder (a wire frame moves up and down on the ground glass to correct for parallax). The two lenses are mechanically synchronized for focus. Thus the cameraman can see the picture as it appears on the picture monitor tube in the control room, except for its being upside-down. In the other cameras, a mirror serves as view finder, the scene being reflected from the mosaic of the iconoscope. In this case, the brightness of the image the camera holds is low making it difficult to see the view clearly.

Operating Features: Some of the operating features of these electronic cameras and camera dollies include:

1. Cameras can be dollied in or back.
2. All three cameras can be moved rapidly from position to position or from set to set.
3. Camera can be tilted up or down.
4. Camera can be panned to right or left.
5. Dolly cameras can be boomed up for high-angle tilt-down shots.
6. Dolly cameras can be boomed down to floor level for up shots.
7. "Chinese" feature on one dolly: The boom base is so constructed that the boom supporting the camera can be revolved or turned through 360 degrees, thus turning the camera head to various angle positions without moving the dolly base. This "Chinese" feature is useful when a producer wants angle shots from positions where it is impossible to maneuver the dolly.

Warning Lights: Cameras are provided with on-the-air (red) and preview (green) lights, located inside the camera, on the front of the camera (for performer) and on top of the camera case. On the two dollies, on-the-air and preview lights are mounted at the back end for the dolly man.

Earphones: Earphones for cameramen and dolly men are connected to a box mounted on the bottom of the camera case (right hand side). A volume control is provided.

Focusing Tips

The action or dramatic value of a scene determines the point of focus. In a 2-shot in depth (one character slightly forward), the usual custom is to split focus, that is to focus midway between the two subjects. However, if one or the other is to be emphasized, the dramatic value of the scene can be pointed up by focusing on one of the two subjects, leaving the other out of focus in foreground or background.

The eye can be drawn to a particular person or action by focusing sharply on that person or object. The producer can employ focusing as a dramatic element in the television show.

The Television Picture

The two-dimensional camera bears the same relationship to the eye that its accompanying sound does to the ear—the televiewer seeing the scene with one eye (the camera's) and hearing with one ear (the microphone's). The illusion of depth (third dimension) in the television picture must be achieved by lighting and by well-balanced sound.

XXX

Color and Stage Sets

In black and white television, set designing is inextricably tied up with the type of light (mercury vapor or incandescent) used, and color. Television resolves all color in terms of a gray scale but the television gray scale has a shorter contrast range than other present photographic media. Also, the color sensitivity of the iconoscope (camera tube) is different from the panchromatic character of our modern fast movie film.

Some television studios solve the problem of color by having all stage sets painted in tones of gray. The effect, however, is psychologically depressing upon performers, studio personnel and visitors. A full knowledge of the gray scale values of various colors in conjunction with the light source used at any specific studio, will help the artist design sets in full color which are pleasing to the television system (resolving into pattern tones of gray) and which are pleasing to the performer or studio visitor.

Before discussing color, it must be stated that all conclusions are empirical; based upon trial and error observations of everyday telecasting operations. Therefore, color reactions in television with a mercury vapor light source, are given for what they are worth to anyone working under similar conditions.

The mercury-vapor water-cooled light is high at the blue region of the spectrum. Also, the present camera is more sensitive to blues than the average film. As a result, blue pigments televise at the higher end of the gray scale, with red at the other end appearing from medium gray to near black.

Television Gray Scale

The television gray scale indicates the resolution of all colors into corresponding gray values. It may vary from a five-step gray scale which is the contrast range of most present-day television, to a longer contrast gray scale promised with the more sensitive and improved postwar equipment. This longer television gray scale, evidence of which has been seen in the 18 by 24-inch projection receiver picture, approaches the ten-step gray scale of photographic and printing media.

The five-step gray scale is incorporated in most stations' test patterns, designs of lines and circles (see picture in Chapter XXXV, page 216), which are telecast for one-half hour preceding regular show time so that receivers may be adjusted for full clarity of gray values (picture contrast).

The five steps of the television gray scale are: white (i.e., practically white), light gray (¼ tint), medium gray (½ value), dark gray (¾ tint), and practically black. See the gray scale on the bottom of the color test chart on the next page.

In general, colors in television *with mercury vapor light* resolve into gray values in this relative order:

Blue—at the high or white end.

Yellow—light (¼ tint) gray to medium (½) gray.

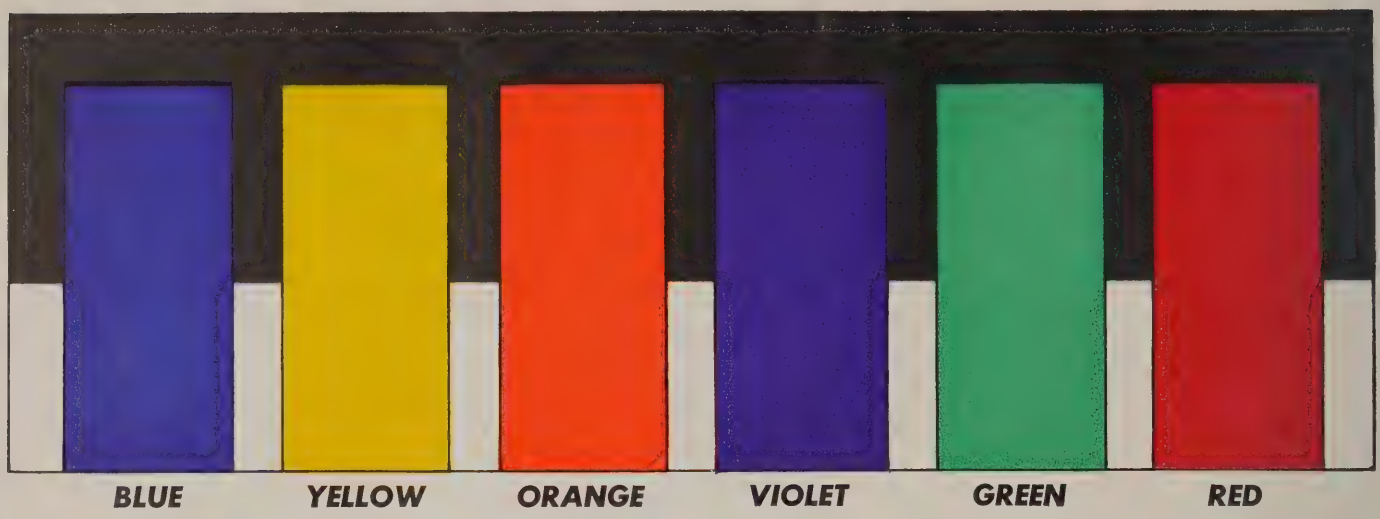
Green—medium (½) gray to dark (¾ tint) gray.

Red—medium (½) gray to black.

Black—will have some transmitted light through it and a noticeable amount of edge flare.

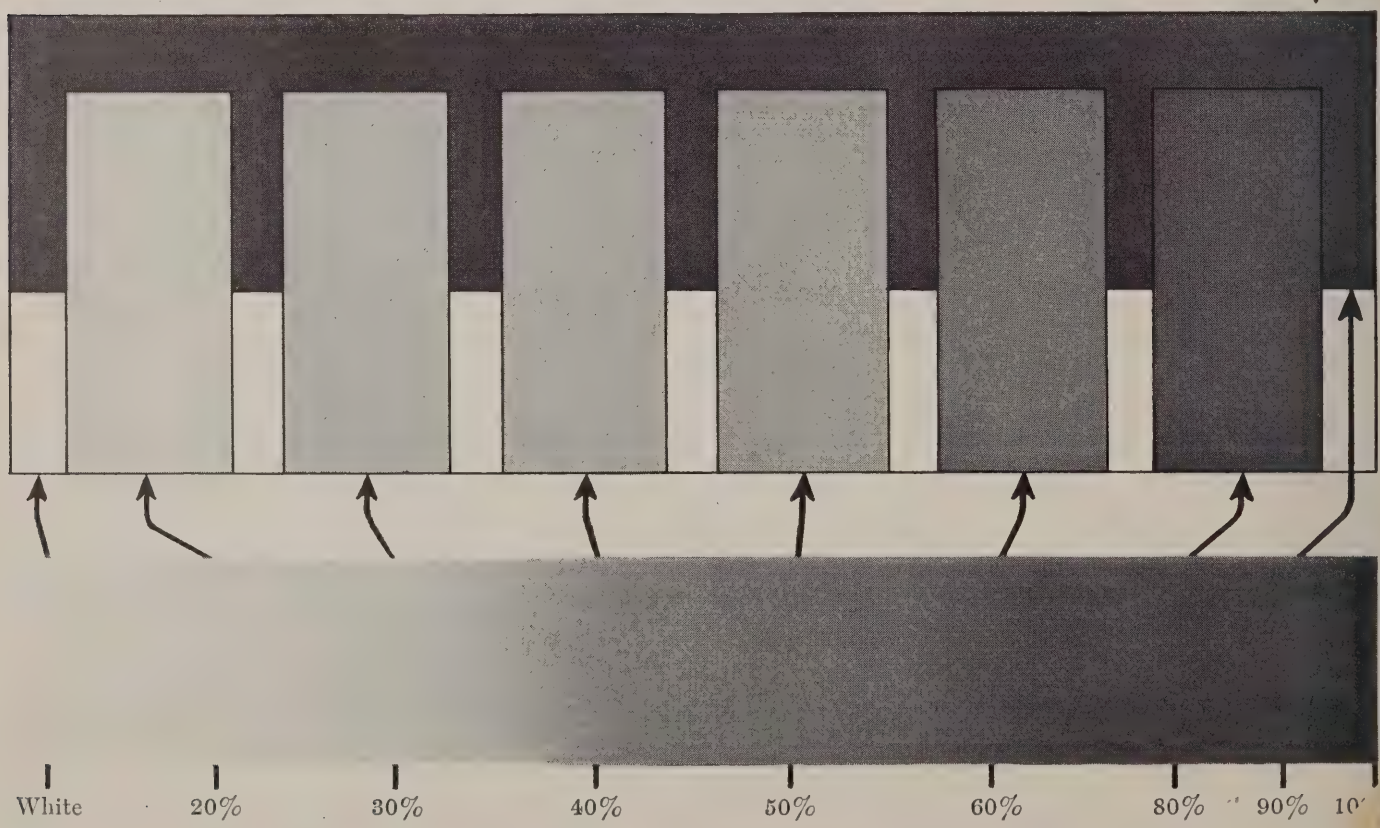
These television gray values of various colors are only approximate. Anyone contemplating a career in the art field of television would do well to read articles on color, especially works appearing in photographic journals and photographic text books for the printing trade. The use of color in painting and designing stage sets for film or television reproduction is a field of study to which one could devote a lifetime. This chapter on *Color and Stage Sets* will touch only the high spots as affecting the television work at WRGB during the past five years.

TELEVISION GRAY VALUES OF COLOR SUBJECTED TO MERCURY VAPOR LIGHT



▲ A test to determine the television gray scale values of colors when subjected to mercury vapor light was made with Texolite paints which are used for scenery at WRGB. The Texolite paints are shown above, reproduced in approximate color values. The Texolite paint tones are: Blue (deep blue), Yellow (light yellow), Orange (a mixture of Texolite light red and medium yellow), Violet (deep blue and magenta), Green (deep green), and Red (bright red). The approximate gray scale values, reproduced in half-tone, are shown below.

▼



GRAY SCALE: COMPLETE RANGE FROM WHITE TO BLACK

Color Test

Charles McGarrahan, WRGB staff artist, made an interesting color test with Texolite 330 paints which are used for scenery at the station. The test was made on matt-finished board (no glossy reflection quality) with the spectral-color paints shown on the opposite page. The Texolite 330 blue paint is deep blue; yellow is light yellow; orange is a mixture of Texolite light red and medium yellow; violet is a deep blue paint and magenta; green is deep green, and red is bright red paint.

The approximate gray-scale values, reproduced in half-tone, of the colors subjected to mercury-vapor light are shown is the second chart. The bar at the bottom of the page shows the complete gray scale range from white through the gradations of gray to black. It is interesting to note that:

Black shows up a deep gray (90% black) because of edge flare and transmitted light.

There is a clear line of demarcation between the gray values of the colors and black.

It is better to use black on white, for instance for a slide, to avoid light flare around the edges of the receiver screen which occurs with a black field.

The color separation between red and black is sufficient to establish background details.

Blues, yellows and orange contrast well with violet, greens and reds.

Working with Color in Stage Sets

With a basic knowledge of the reaction of colors to the light source of a television system the staff artist and his scenic assistants can plan sets in color which will be pleasing to the eye and at the same time resolve into effective tones of gray. It is important that television artists learn to work in color, anticipating the day when we will have color television.

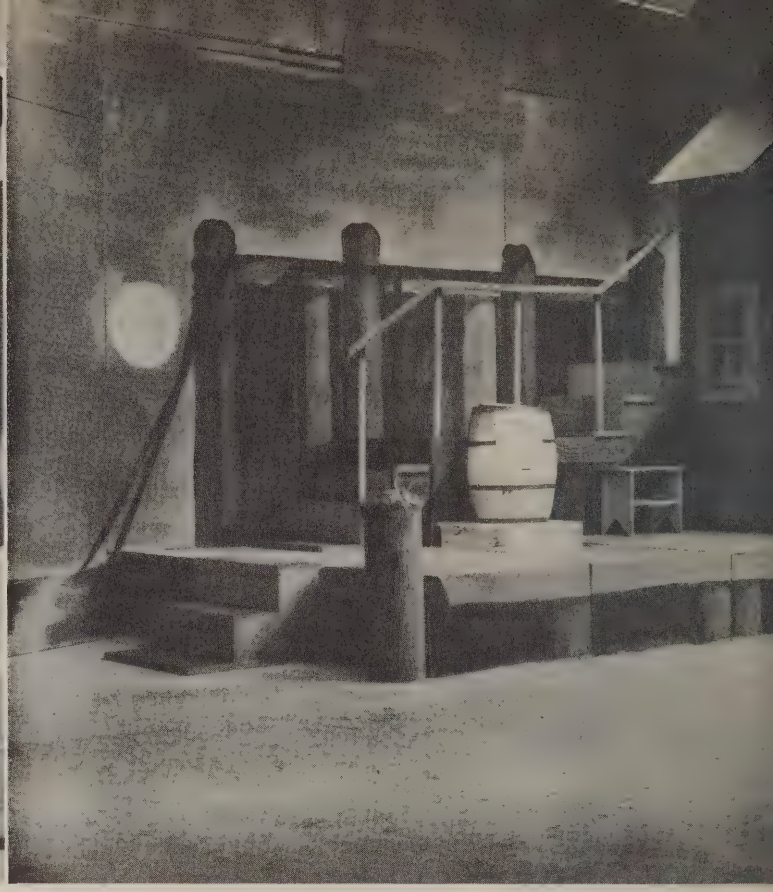
In planning sets the artist or scenic designer must consider the dramatic value of color in the achromatic scale in relation to the mood of the play and the dramatic characters. To point up this principle, it is simpler to list pertinent factors of both color and the medium:

1. Color Aspect of Television.
   - **a.** The stage set background should be subordinate to the color a character is wearing. The dramatic character should dominate a scene.
   - **b.** Symbolism of color helps to carry the main character. Somber grays can project mystery. A predominance of light over dark areas can project gaiety.
   - **c.** The artist has two values to work with—black and white—and the stage set background should not contain either of these in extreme values. Under mercury vapor lights, he can achieve excellent results by confining the tonal value of his background to a range of approximately 25% to 75% of black.
   - **d.** The difference in resolution of colors must be carefully considered when painting backgrounds. The scenic artist must know the hair tone and complexion of the dominant character of a show as well as the color of the costume, otherwise a main character may be lost in the scenery.
     Point: Alice in Wonderland (blonde) became very much a part of a stone wall.

2. Color Values in Stage Sets.
   - **a.** The lighter a stage set is (greater reflection value), the larger the effect is on the receiver. Borrowing a trick from the decorator trade, the lighter a background is the more spacious the effect of the room.
   - **b.** Darkened flats cause a loss of depth when close to light objects or characters. Sometimes it is wise to sacrifice depth for the sake of the picture. Depth then should be achieved through lighting and by keeping performers well away from the background.
   - **c.** Tan, under the mercury light, is a good neutral background. It is objectionable for a character like Alice in Wonderland (blonde) because it changes the color of her hair and renders it into the same gray scale value.

3. Planned Backgrounds.
   - **a.** Make stage sets in full color.
   - **b.** A dark foreground requires a background lighter in tone and vice versa.
   - **c.** Television requires simple backgrounds, abstract or realistic, which are not distracting.
   - **d.** Avoid a busy background. Stress tonal rendition in mass, rather than in line detail.

▲ THIS stylized setting was used for a Vimms commercial. Two ground rows and a tree piece against a curtain background achieved an outdoor effect.



▲ THE realistic stage set for *The Rising of the Moon* was solidly constructed of wood. Cameras could be dollied right up to the wharf for close-ups.

STAGE sets can be simple such as this park bench scene for a Wildroot Cream-Oil commercial. The painted "Central Park" flats give a realistic background. ▼

IN *Alice in Wonderland*, the flat on the left with the tiny door (under the camera) was used to create the illusion of Alice's change in size. ▼

Over-designed sets, full of detail, confuse or make "busy" the picture composition held on camera. Busy backgrounds "kill" interest since there is no focal point of eye attraction.

e. Avoid attention-holding designs unless their impact aids a desired effect. Flamboyant curves of period design are distracting. Paint curves of period design in diminishing gray scale values, next to each other instead of in contrast to each other.

4. Pattern Value of Backgrounds.
   a. Background should be subordinate to action going on in the stage set.
   b. Background should help set mood of action, such as horizontal lines for restfulness, oblique lines for action, etc.
   c. Use subdued designs for harmonious effect. (Period curves in related gray values.)
   d. Urge the producer to direct the show's action against the planned background (with planned lighting!). This is to avoid unpleasing camera angle shots. A background may be effective if the action is played in a restricted area; it may be distracting and unharmonious when seen from an off-side angle which throws the background out of composition.

Applying these basic principles of color (in conjunction with the studio's light source) to set designing, the staff artist is in a position to achieve any effect he desires. This assumes that the staff artist is a capable craftsman and that he has television experience or is willing to learn to work in the medium.

Some Duties of a Staff Artist

The staff artist at WRGB also supervises the building of sets. In these days of experimental television, a staff artist should be a combination of: a) commercial artist, b) scenic designer and c) color authority.

He is called upon to:

1. Design and make slides (layout dept.).
2. Design sets (art dept.).
3. Be an interior decorator.
4. Compose action areas.
   (Playing areas where show's action is to take place. Sets must be designed for ease of camera movement.)
5. Build sets (carpenter shop).
6. Paint sets (paint shop).

The Producer and Stage Sets

It is not the intent of this handbook of experience to teach stage set designing and construction for television but rather to give some pertinent information of value to the producer, to point up his duties and function in getting stage sets ready for a show.

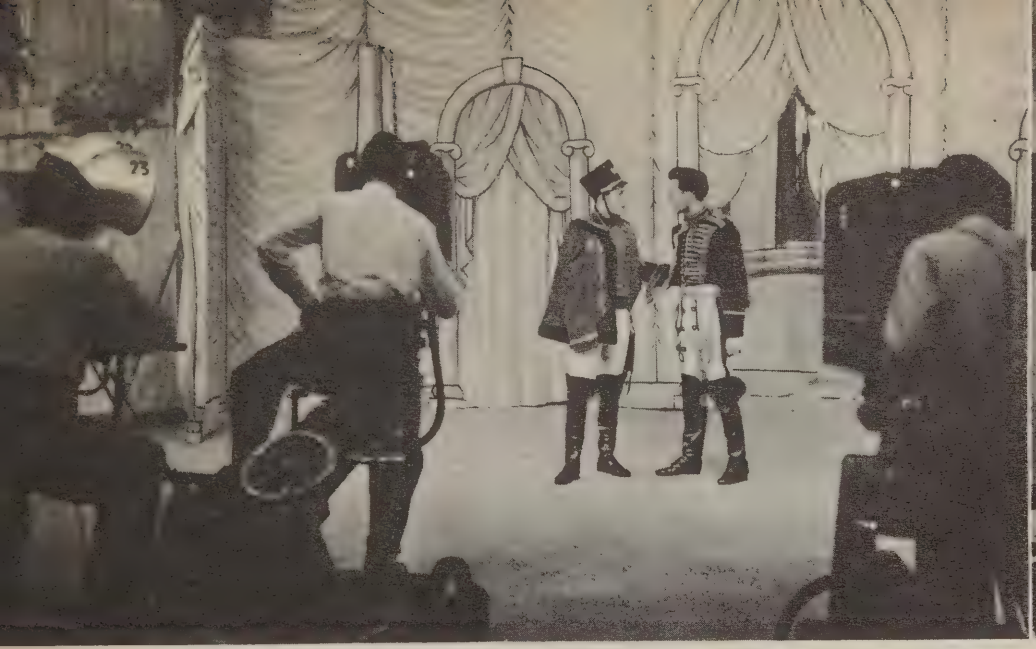
In planning a program sufficient time must be allowed for stage sets to be built and erected. Many shows use flats and drapes on hand; others require complicated sets which must be constructed. The producer should call a conference on sets as soon as he can—the conference to include the staff artist, the head cameraman, and the technical director to discuss all camera and technical problems connected with the show before definite plans for the stage set or sets are drawn. This will include a discussion of the type of stage sets, the layout (playing areas), and the studio location or floor plan.

The Floor Plan

The producer should then give the staff artist a floor plan showing the agreed upon layout of sets on the studio floor, the number of sets, and the direction of camera movement (cameras to be moved clockwise, or counterclockwise during the program). See sample floor plan on page 166. The producer also should furnish the art department with a description of the set or sets required, noting any particular effects pertinent to the show's action, such as a practical window on left flat. He also should furnish the artist with a list of slides and detail (to be lettered or hand drawn) required for the performance. The artist then goes to work.

A Realistic Stage Set

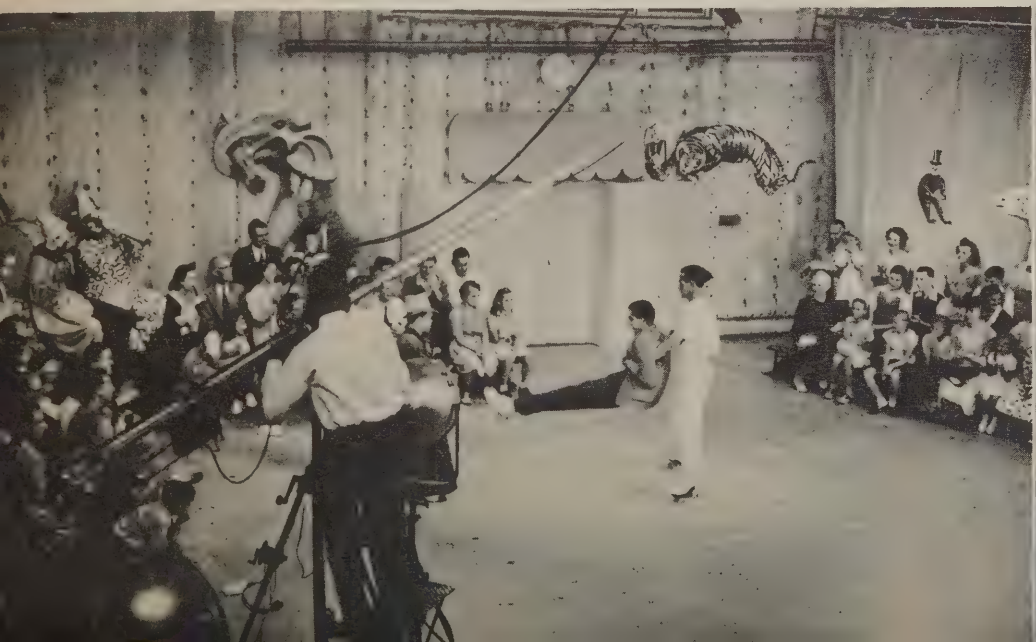
One of the most effective sets, intended to be realistic in every detail, was built for Lady Gregory's *The Rising of the Moon* (see picture, page 162). It was an exterior set of a wharf with steps leading down to it and a shed to the right. The play's action took place on the steps, on the wharf and at the shed. The effect of water was achieved through sound ef-



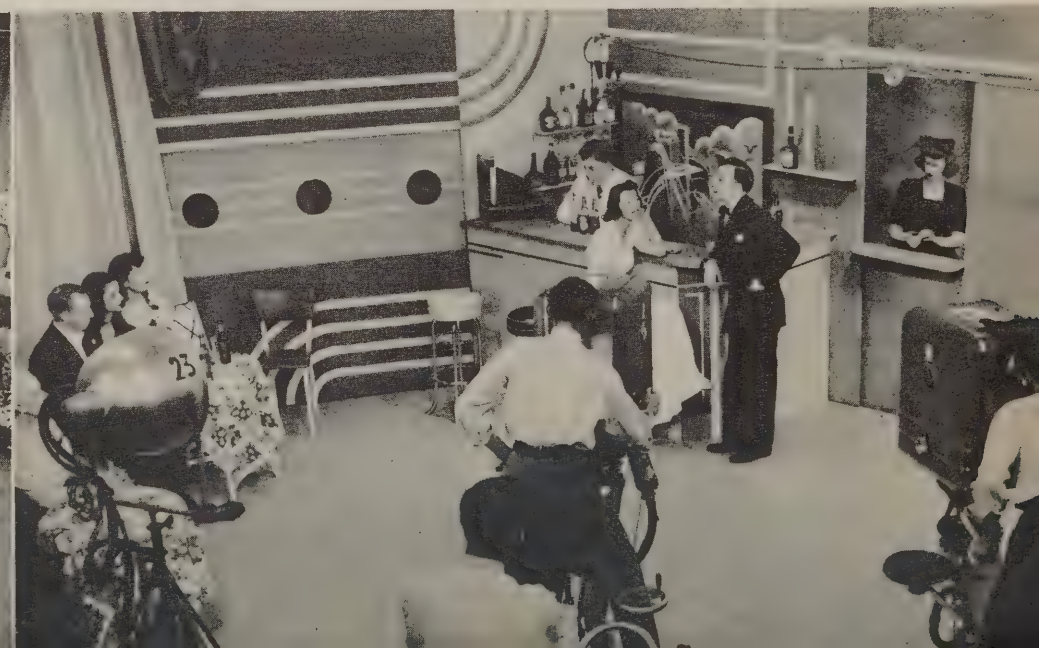
▲ A PAINTED drop scene (curtain) and painted wings (flats) created this stylized setting for Oscar Strauss' operetta, *The Waltz Dream*. The stage set allows free floor space for camera movement to cover principals and chorus.

▲ A NESTING arrangement of sets. Here a barber shop quartet, one of five contesting groups, is shown being televised. The half-hidden double bunk set is ready for a Navy quartet as soon as the barber shop set is struck (removed).

CUT out animals festooning the walls, a clown band, and bleachers for the audience turned the WRGB studio into a circus big top. Acts were performed in the open space in the center. ▼



SOPHISTICATION is the keynote in this nightclub set for *The Snazzy Pigeon*. The set was planned for three playing areas—at the hat check window, at the bar and at the tables. ▼



fects. The cameramen were careful to hold no more than the edge of the wharf in the picture takes.

The WRGB staff artist works a lot with double-faced corrugated cardboard (smooth on both sides). He uses it to build bars, fireplaces, windows, mirrors, trees, stone walls and lattice work. It lends itself easily for cutout purposes (it can be cut with a sharp razor blade or linoleum knife) and it can be bent for circular effects. He also uses insulite, a new wood composition.

Designing and Building Stage Sets

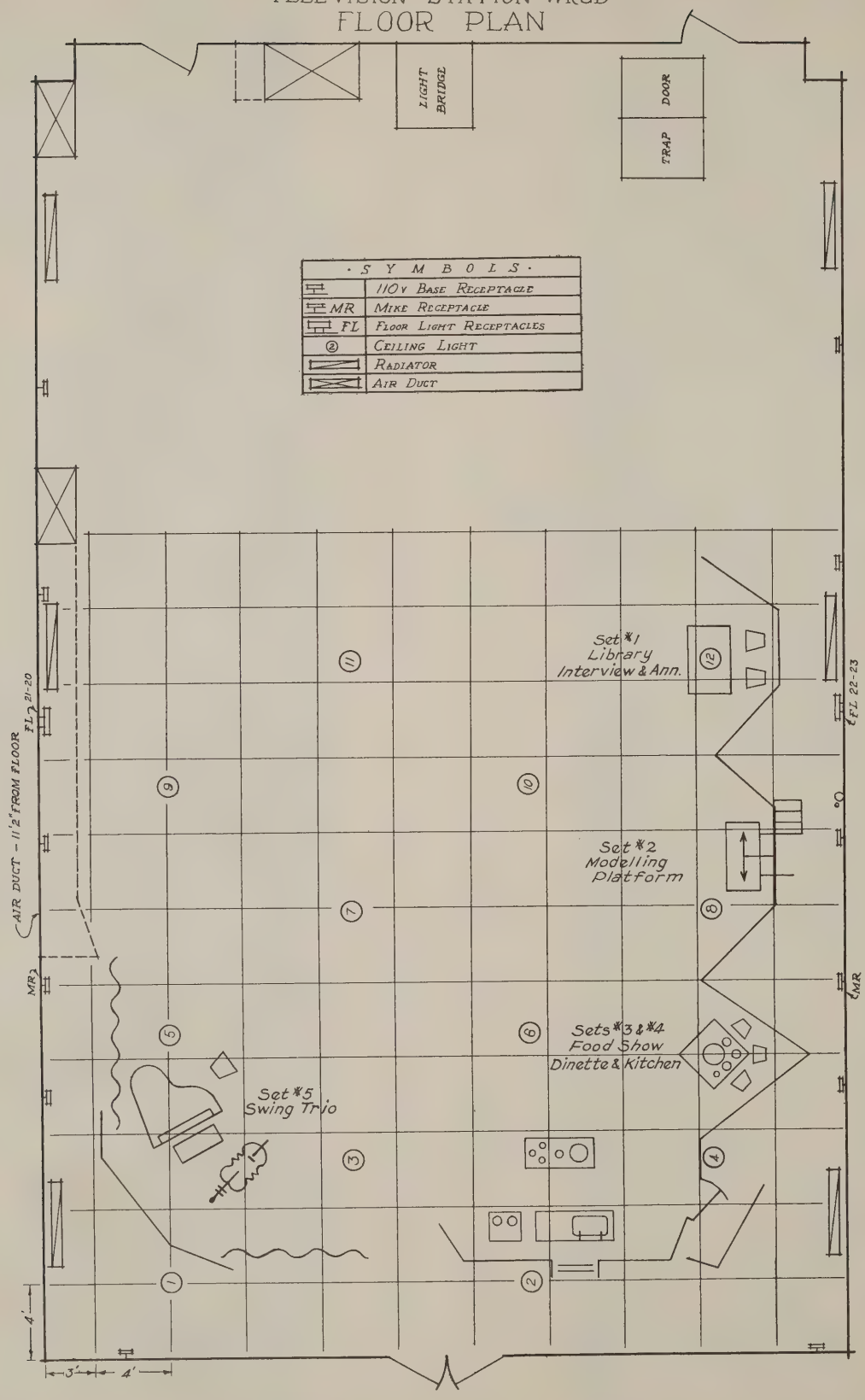
Designing and building television studio sets include a consideration of these points:

1. Types of Stage Sets.
   - a. Stylized.
     A stylized painted set of draped walls, doors and windows was used for Oscar Straus's operetta, *A Waltz Dream.*
   - b. Realistic.
     Since the television screen is comparatively small, a set can be realistic in major outlines and in mood, rather than realistic in complete detail. Simple decorations, furniture and construction can be used to achieve a realistic setting.
     - b-1. The night club set for Eric Hatch's *A Snazzy Pigeon* is an excellent example (see picture, page 164).
     - b-2. Another example is the interior of the plane set for Henry V. Larom's drama, *Death on Flight Forty* (see Chapter V, page 28).
   - c. Drapes.
     The WRGB studio has two sets of drapes, one set tan and the other electric blue (some red in the blue). These can be used effectively with variety shows, giving a curtained background. Drapes combined with flats can be used effectively for music spots, dance programs and operettas.

2. Plan and Size of Stage Sets.
   - a. Sets must be large enough to allow full camera movement to cover playing areas and compact enough for pleasing composition.
     - a-1. Room sets can be erected with three walls. The side flats are braced at obtuse angles to the back flat, giving a wider playing area and allowing for camera movement.
     - a-2. Two-wall sets, forming a wide "V" can be used. The advantage in this type of set lies in confining actors to a limited playing area, forcing them close together.
   - b. Elevated stages or platform sets are desirable when the action takes place on the apron or if the platform is comparatively narrow.
     - b-1. Action taking place at camera height, in an airplane set for instance, is shot head on, getting natural perspective. Action taking place on the floor of the studio may require tilting down of the camera thereby distorting the picture.
   - c. Sets can be as simple or elaborate as the producer desires providing the background is kept in harmony with the television screen. "Busy" sets should be avoided.

3. Construction of Stage Sets.
   - a. Sets are usually constructed from flats lashed together and anchored by stage braces. Occasionally stairways, balconies, bars and platforms are required. These are constructed of lumber and insulite and added to the studio's scenery shop for re-use or adaptation in future shows.
     - a-1. The average television studio should have on hand a supply of standard flats (height, 9 feet) varying in widths. A good supply would include:
       10 flats—5′ plain.
       4 flats—5′ with doors.
       3 flats—5′ with windows.
       Several 2, 3 and 4 foot flats for fillers.
       Gothic doorways.
       Roman arches.
       A pair of French windows.
       Gothic window flats.
       Single small-room unit such as a three-fold library set.
       Ground rows.
       Exterior drops.
       Cycloramas.

TELEVISION STATION-WRGB
FLOOR PLAN



a-2. Double-faced corrugated cardboard is useful for cutout effects, porthole sections, ground row, etc.

a-3. Flats can be painted and re-painted many times. WRGB uses Texolite, 330. This is a water paint which dries in an hour. Any caseine or muresco or powder base paint is as serviceable.

b. A well equipped workshop will facilitate stage set construction.

b-1. The workshop should be equipped with a workbench with wood vise and drawers and a large paint storage cabinet.

b-2. Tools should include circular, crosscut and keyhole saws, a ratchet brace, drills, a block plane, chisels, screw drivers, pliers, tack hammers, claw hammers, a carpenter's square, rules, an auger, a wrench, scissors, nails, screws and a stock of small hardware.

4. Studio Layout of Sets.

a. Position of sets in the studio is planned in relation to light sources, camera movement and sequence of shows to be telecast.

a-1. Stage sets are laid out for clockwise or counter-clockwise camera movement.

a-2. Nesting arrangement of sets may be necessary.

Occasionally action calls for more sets than a studio will accommodate. A set which is going to be used in a later scene is set up and a set called for in the early action of the show is set up in front of it. This is called nesting (see picture, page 164, showing studio setup for a quartet contest). The set for the early scene is struck (dismantled) while the cameras move on to another set. The later scene set is then ready for performers.

b. The sample floor plan (on opposite page) shows the stage set layout for an hour's live studio schedule involving three programs and five sets.

5. Putting Up Stage Sets.

a. The time required to put up or erect a stage set varies with its size and complexity. It may take from ten minutes to a full day for a crew of four men to put up scenery depending upon the amount of construction involved.

a-1. Lashing together and bracing a couple of flats for an announcer's spot may take only ten minutes.

a-2. Getting the plane set for *Death on Flight Forty* ready in the studio took approximately six hours to design the set, one day to build and erect it in the studio, and one day to paint the set. (See picture, page 28.)

a-3. Setting up the ring (it comes apart in sections) for a boxing bout takes a crew of four men about 5 hours.

b. Stage sets must be anchored securely. A staff member should be designated "safety engineer" to check all flats, platforms, etc., before each performance.

b-1. Flats and scenery should be lashed and braced.

b-2. Platforms, stairs and balconies should be bolted and braced.

c. The time required to strike a stage set varies with its size and complexity. Sets can be struck and stacked away in a comparatively few minutes. Studios can be cleared in half an hour to an hour and a half at most (crew of four men).

6. Properties (Props).

a. Properties, or props as they are called, are always troublesome. The property man must be able to supply everything a producer or script writer can imagine, from a darning needle that must be seen, to a fringed-top surrey, not to mention water wheels, antiques, a well-done roast beef, to unusual breeds of dogs. He must be able to deliver grocery store scales, bales of hay, roll-top desks and even a coffin on occasion.

b. The producer should give the property man a detailed list of props needed, with pertinent descriptions where necessary, such as:

Mirror—colonial, cracked.

Four-poster bed—dilapidated.

Iron pot-bellied stove, get either small (preferred) or large.

2 chairs—use your judgment.

c. Props can be rented or bought. Rent them when you can. Storage space is a problem.

The Value of Stage Set

Too frequently insufficient time and thought are devoted to planning stage sets for effects, color, design and mood. The set is an important factor of the show. It is always on the screen as a background for the show's action.

Design and Color in Television

Stage set design for television has its roots in three different fields of visual art: in the theater, in motion pictures and in modern display design. It calls upon all of these media from time to time to borrow from any one of them the use of color, line and composition.

XXXI

Make-Up and Costumes

MAKE-UP has to perform the same functions in television as it does for the stage or motion pictures, but in a more subtle manner. Television is an intimate medium serving a home audience who sees performers in close-up on a small screen. Therefore, television make-up has to:

1. Make people good looking or, at least, interesting looking.
2. Accentuate or correct natural facial characteristics.
3. Superimpose the externals of character upon the natural face—old age or special characterizations unlike that of the actor.
4. Produce the distortions and disfigurements for which the nature of the performance or the script may call.
5. Make people "natural" looking in close-ups and yet with definite facial characteristics in long shots, without over-exaggerating make-up. Television in a modified way does have to overcome the fact of viewing at a distance (long shots) but not to the same extent which exists in the legitimate theater where the farthest spectator may be 75 feet or more from the stage. Over-exaggerated legitimate theatrical make-up looks absurd on the television screen.

The present tendency in television is to allow performers to appear without make-up, or in the case of women, with usual street make-up. Television as a show medium must get out of this manner of thinking and should give the art of make-up its due importance in the production of programs.

Basic Factors Affecting Make-Up

There is a relationship of factors in television which must be analyzed and understood before make-up can become a set procedure. This knowledge is still to be acquired. The relationship which must be determined is: light source to face to camera.

The first basic fact is that any light source contains all the wave lengths in the visible light spectrum in greater or less amount. The color components of the light source must be known. At WRGB, for instance, the water-cooled mercury-vapor lighting is high at the blue region of the spectrum.

Light Source and Color

The second basic fact in considering make-up is that the face or the make-up it carries will reflect only the colors of light which it contains. Thus the color must be in the light and in the make-up in order for it to be reflected toward the camera. A dark face reflects less light than a light face; a blonde more than a brunette; a pale face more than a red. Many amateurs and a few professionals think that because a deep sun tan looks glamorous in real life it will look the same on the television screen. It does not. Sun tan tends to blacken the complexion.

The third basic make-up factor to consider in television is that the surface texture of the face influences the amount of light which is reflected toward the camera. A smooth face or make-up has greater reflective power than a rough face or make-up.

Shape of Face

A fourth factor is the shape of the face. At WRGB, with most of the light coming from above, a round face will reflect more light in the direction of the cameras, from a greater amount of surface than a flat-cheeked face. Well-placed floor spots can be used to advantage in modeling flat-cheeked people and, for a matter of fact, all performers, to reflect light from the lower portion of the face.

The fifth factor to be considered in television make-up is purely technical. The sensitivity of the

camera tube through the light spectrum affects the translation of light reflected from a face and converted by the camera into signal voltage and subsequently into kinescope brightness. With a high red component in the studio light, with red make-up, and a low response to red in the mosaic, the image of the red surface will appear dark gray to black in the receiver picture. If, on the other hand, there is high blue content in the light, as there is in WRGB's mercury-vapor light source, and blue in the make-up and a high response to blue in the camera tube, the image of the blue subject will appear as white or very light gray in the kinescope or receiver picture.

Color Spectrum and Gray Scale

Finally, there is the whole color spectrum and its resolution to the gray scale to be studied (see Chapter XXX) in black-and-white television, and how this affects the individual picture values in relation to camera coverage from various angles. The gray scale range over the whole picture field operates to set electronically the gray scale tones of the whole picture in the kinescope in a relative manner: i.e., if a picture subject contains an area of deep black, then the signal can be set so that black becomes a true black reference level for all the other gray scale tones in the picture. If there is no true black in the subject, the gray scale tone nearest to black will set the reference level for all the other tones. Thus, when two views of a person are taken, each on a different camera, showing the background from different angles, one containing a solid black and the other only a relatively dark gray, there may be a difference in the gray scale value of the face even though make-up, lights and camera tube sensitivity have not changed. This accounts in part for the occasions when a person's face looks attractive on one camera and appears dark on another camera.

Make-Up Used at WRGB

These six factors must be considered and studied before fundamental rules of make-up can be arrived at with any degree of accuracy for any television lighting system. However, trial and error make-up has resulted in many attractive picture sequences, with performers showing up extremely well. No specific line of cosmetics has been used exclusively at WRGB, experiments having been tried with Elizabeth Arden's cosmetics, Max Factor's, Stein's, Coty's, Westmore's and other lines.

Modified Motion Picture Make-Up

Although the camera tubes now in use were designed to have a relative sensitivity similar to ordinary panchromatic film, they lack the sensitivity in yellows and reds that panchromatic film possesses. Motion picture make-up, however, can be modified for television, taking into consideration the light factor as it affects color.

Technicolor Make-Up on Television

The most satisfactory make-up results to date at WRGB were obtained by Peter J. Vest, make-up authority of Elizabeth Arden's Screen and Stage Department. Vest found that Technicolor Foundation gave the most pleasing effect under mercury-vapor light.

For glamorous make-up for a blonde, Vest used:

Base—Technicolor Foundation No. 6 (middle tone) was applied lightly to the entire face and was patted in well with the finger tips. The technicolor foundation was patted in well under the eyes to the eyelash lines and was worked down into the neck.

Correcting feature defects with shadows—To eliminate an under-chin heaviness, No. 9 screen and stage liner was applied lightly under the tip of the chin and blended to the sides and backward. To correct a bulb tendency at the tip of the nose, No. 9 screen and stage liner was applied to the lower end of the nose and blended in and down.

Cheeks—No. 9 screen and stage liner (not rouge) was applied to the cheek hollows and blended back to the ear lobe and neck for shadow effects. This narrows the face and adds definition.

Powder—3-X screen and stage powder (light tone) was applied generously with cotton over all the face, over the forehead, into the hairline, down into the neck, and at the back of the neck. The powder was blended in carefully, especially at the eyes. All excess powder was brushed off.

Eye shadow—No. 9 screen and stage liner was applied to the center of the eyelid and blended outward toward the temple and upward to the eyebrow line. (NOTE: Do not blend the

liner toward the nose. This would tend to narrow the eyes.)

Eye cosmetique—black eyebrow pencil mixed with a little brown was painted on the upper eyelashes, curling the lashes upward. The lower lashes were painted slightly. With a black eyebrow pencil a fine line was drawn at the base of the eyelashes on the upper lid only, extending slightly toward the temple.

Eyebrows—The eyebrows were first brushed to remove all powder. Then black eyebrow pencil mixed with a little brown was painted on in a thin line.

Mouth—Viola lipstick, which resolved into 90% gray scale in contrast to the 20% gray value of the Technicolor Foundation base, was used. It was painted on. The lip line was first outlined and then filled in. Then with the subject's mouth open, the lip line was filled in for smile effect.

The result was very pleasing. The subject looked glamorous, with well defined features which showed up well both in close-up and in long shots. This basic make-up was used on the model for the Elizabeth Arden beauty demonstration over WRGB (Sept. 29, 1944).

Trial-and-Error Experimenting

Other than the Elizabeth Arden experiment with make-up for her commercial show, all make-up at WRGB has been trial-and-error experimenting by the staff. No beauty expert has made a complete study of make-up under operating conditions. With professional performers who work in the television medium, the problem of make-up is solved by letting them apply their own.

Professionals with their make-up "know how" have what they call a "heavy light" and a "heavy dark" make-up. The "heavy light" works well for television. Most actors and actresses have studied the contours of their faces and generally know how to highlight their good features and subdue their bad ones. This knowledge modified for television will solve individual make-up problems for straight roles.

Effect of Light on Color

The television make-up artist (the medium is waiting for a Max Factor or Perc Westmore) must learn to judge make-up in relationship to background, to other performers, and to understanding of the gray scale resolution of colors as effected by the light source (see Chapter XXX). Some of these factors are:

1. The present mercury-vapor light source is heavy in the blue region of the spectrum and the camera is sensitive to blue, consequently, blue is resolved as light or medium gray.

2. Red, which is normally a dominate color, is resolved under the mercury-vapor light and by the camera sensitivity into a 50% to 80% gray (dark gray).

3. Blondes, whose basic coloring is yellow, resolve into light or a medium gray scale tone. This is because of the yellow response to the mercury-vapor light. Red heads usually take on dark gray tone values.

Some Make-Up Pointers

Make-up's primary function is to make performers attractive or glamorous on the television receiver. In some cases make-up is used to create characterizations. Here are some make-up pointers based on production observations and make-up used by performers:

1. Even though natural skin tones are the best, nevertheless, practically all performers should be made up, and this applies to men as well as women.

2. Most skin-textures need a good base to cover facial defects which are much more apparent on close-ups in television. The television receiver brings performers face to face with home viewers.

3. Facial features must be skillfully defined for close-up viewing and long-shot definition.
   a. For straight make-up, the nose can be defined through light and shadow:
      a-1. If the nose is broad and without a definite bridge line, a thin line of rouge applied down the sides of the bridge from the eye line to the nostrils, after base make-up has been applied, will narrow the nose.

a-2. If the nose is well-shaped, it can be defined by using a darker shade of foundation cream on the sides of the bridge and blended toward the cheek. This will give a shadow on the sides of the nostril. This, however, usually is not necessary.

a-3. A wide line of highlight down the bridge and a little under the tip of the nose will make the nose seem broader, while a narrow highlight line will have the tendency to narrow the nose.

b. The base or foundation cream must be blotted off to have a smooth effect.

b-1. Excess highlight or overglow has a tendency to look greasy.

b-2. Performers should be taught to use foundation creams sparingly, but the cream or base must be well worked into the skin and blended down into the neck and shoulders and into the hair line.

c. Eyes can be enhanced or made to appear larger by applying eye shadow.

c-1. Apply blue eye shadow (other colors are unsatisfactory under mercury-vapor lights) to the center of the eyelid and blend it outward toward the temple and up into the eyebrows. Do not blend toward the nose because this will make the eyes appear smaller.

c-2. Blue eye shadow can be used lavishly because all blues under mercury-vapor light source tend to translate into light gray-scale tones.

c-3. To make eyes larger prolong the eyelash line toward the temple. The eyebrow can also be extended in some cases, depending upon the face.

c-4. Under-eye shadows can be eliminated by applying a heavier coating of base or foundation cream and powdering the area heavily.

d. Mascara can be used.

d-1. Black mascara, applied to upper lashes, gives eye definition.

d-2. Mascara should not be applied to the lower eyelashes.

d-3. False eyelashes, if not too long or too heavily applied, can help make the performer look glamorous.

e. Lipstick should be applied with a brush and painted on. The lip outlines can be made sharper; the lipstick can be applied more evenly by painting.

e-1. Any lipstick with blue in it can be used with mercury-vapor lighting.

e-2. Blondes can wear bright reds; brunettes deep red or garnet.

e-3. Excess lipstick should be "kissed" off, leaving only the outline of the mouth.

e-4. Max Factor's brown panchromatic lip lining is good for men.

f. Rouge in television does not serve the same purpose that it does for street wear or on the stage.

f-1. Rouge, with its basic red coloring which under mercury-vapor lighting has a dark resolution in the receiver picture, is used to create shadows and contours on the face.

f-2. It is usually wiser not to use any rouge but to use a darker foundation or liner for rouge contours.

f-3. Light blondes with baby-fair complexions require no rouge.

f-4. Blondes with deeper skin tones can use some rouge. It should be blended from the cheek mound upward and outward to the ear lobe.

f-5. Brunettes must be careful in using rouge so that it does not create too heavy a shadow, detracting from the performer's appearance.

g. To make shadows or lowlights use a darker shade of foundation or base cream than the ground or base tone of the complexion.

g-1. In straight make-up shadows can be used to offset features that are out of proportion.

g-2. In character make-up shadows are used to produce sunken features or to emphasize facial features.

Character Make-Up

Character make-up in television must be subtly applied so that it appears "natural" in close-up

shots. This basic make-up was used to achieve old age wrinkles:

Base—Natural base was applied first to face, forehead and neck and worked in well. This was then covered with a light coat of highlight grease paint. The subject squinted face into natural wrinkle lines.

Wrinkles—Wrinkle lines were marked with a sharp orange stick. A dark powder (panchro No. 36 mixed with brown) was applied overall.

The process from grease paint and powder was repeated; each time digging out the wrinkle lines with the orange stick until the desired effect was achieved. This takes from three to five applications.

Shadows—Westmore's Indian overglow (base) was applied over hollows of cheeks and blended toward the ear to achieve shadows.

Powder—Light powder was applied to jowls to achieve age. (Putty can be used.)

Eyebrows—To age eyebrows, grease paint (highlight) was worked in to get a grizzled effect. Then the eyebrows were combed backwards.

Eyes—No eye make-up was used.

Mouth—Dark lipstick (Westmore's No. 6) was painted on in a thin line. The excess was blotted off, leaving only a light coat.

Hair—Some of the grease paint, base and powder was worked up into the hair. Light powder also was applied to get the effect of gray around the temples.

The result gave an aged New England woman, appearing about fifty. Older or younger character make-ups of this type can be easily achieved by slight modifications in the basic make-up.

This make-up was used for the Mont Pleasant High School Radio Workshop students when they presented Susan Glaspell's one-act play, *Trifles,* which was telecast over WRGB (May 11, 1944). The young married couples had to appear about 30 years old and the sheriff about 50.

Wigs

When *The Mikado* was televised, the problem of stage wigs being used for television was emphasized. Wigs which will do for a stage production are not necessarily good enough for television. The intimate television camera close-up constantly reminds viewers that the character is wearing a wig unless the hair piece fits perfectly and has a natural appearance. Motion pictures have solved the problem by having real hairpieces made for individual actors but this is expensive. Specially-made wigs range upwards from $60. When television gets into full swing, telecasting shows to a large audience of home viewers, the question of wigs will have to be met.

The blonde wig worn by Alice in the television production of *Alice in Wonderland* took on a dark gray hue. The blue light of WRGB's mercury-vapor lighting system exerts no filtering effect on yellow, consequently, yellow shows up appreciably darker on the television receiver. A blue wig would have resulted in the appearance of blonde hair. Alice, who was naturally a dark brunette, had clown-white applied to her eyebrows to achieve a blonde effect. She appeared on the television receiver to have grizzled eyebrows.

Costumes

Here again the relationship of light source to costume to face to camera must be determined. However, certain empirical standards have been set which seem to give satisfactory results. The most important of these are:

1. Avoid dressing characters, except principals, in all black or all white. The gray scale values have white and black as extremes and all other picture or character values take tone qualities from these standards.

2. Never dress a light blonde in white. A brunette with fair skin is excellent in white. White on a brunette with dark skin makes the face appear black.

3. Principals should be costumed in different and outstanding clothes from the rest of the cast, in the case of musicals or operettas, to stand out from the chorus.

4. A camera study should be made of characters and costumes against backgrounds. Too frequently costumes are of the same gray scale value as the background, consequently, characters fade into the background.

5. Costumes should never detract from the face.

6. Plain dress materials are more pleasing if dark or light trimmings are used, particularly at the collar line. A white collar may be used to offset a dark gown.

7. Small figured prints televise well against a plain background.

8. Small details on costumes are worthless. One interesting point of contrast is much more desirable, preferably above the waist where it can be seen in close-up shots.

9. Satin reflects light and is a good material to use for television costumes.

10. Reddish brown velvet comes out deep gray, just as dark as a man's oxford gray suit.

11. Fur must be carefully lighted to show up advantageously. Fur is absorbent, giving little or no reflection of light.

12. Bright costume jewelry that reflects a glare should be avoided.

13. Radio-active colors are not effective on television. Fluorescent materials do have some glow but it is not satisfactory to use such material for costumes.

Relationship of Performer to Set

Make-up and costumes must be considered in relationship with stage sets and lighting. The producer, therefore, should hold a preliminary conference with make-up artist, set designer, and light man to consider these matters:

1. Relationship of make-up to background scenery and lighting.
   a. The color scheme of sets should be selected as a background to main characters: that is, color of performer's skin tone and hair should determine costume and the two together should be considered against background. This is to avoid an *Alice in Wonderland* situation where blonde Alice was turned into a dark haired person and in a woodland scene melted into the background.
   b. Main characters should be dominant in the light or dark ends of the gray scale, with background falling between the ¼ to ¾ value of the gray scale.
   c. More complicated is the relationship of various angle shots of main characters to background to lighting.
      c-1. Too frequently in television a character taken in close-up on one camera looks like an entirely different individual when cut to a close-up on another camera. This is caused not only by the difference between front face and profile view, but to the method of lighting and the relationship of subject to background. Seen from the left, the background may be light; seen from front, it may be dark. Viewed from different angles, the background and lighting change in gray scale values in relation to the performer.
      c-2. This problem of relationship may be solved with controlled lighting.

Television's Challenge

Make-up is the skillful accenting of the good facial features of an individual. In television, which has a tendency to flatten features or to cause them to fade into backgrounds, make-up and lighting have the added importance of imparting definition and contour to a face. As yet no hard and fast rules have been worked out. The complex relationship of color to make-up to costume to light to the camera is unknown.

XXXII

Acting Technique for Television

IT MUST BE recognized that television is a new art and that acting before the television cameras has its own set of rules and regulations just as acting on the stage and before motion picture cameras have their techniques.

Television Factors Affecting Acting

In developing an acting technique for television it is first necessary to understand the basic principles of the medium which affect picture composition. These basic factors are:

1. Television is an intimate medium. The home audience sees performers on a small screen in close-up from a distance of three to five feet or at most from across a room. Performers, under these circumstances, must appear natural to viewers.

2. The camera lens has a narrow field. This means that performers must learn to act with restricted gestures in close grouping. The size of a room or a group, for example, would be established on a long shot, or a long shot might be used to establish two people shouting at each other across a room. But, for the home audience to see the people, to see facial expressions, each performer would be taken in close-up on separate cameras, with quick cuts from one to the other. Possibly one person would move toward the other so that they would be "at each other's throat" for a close-up two-shot.

3. The perspective of the television picture appears to the eye to have depth and space, providing of course that the lighting of the scene is properly balanced. Performers, required by the narrow field of the lens to be crowded against each other, appear on the screen to be comfortably chatting in an intimate group.

4. Television shows go on the air in one continuous performance, hence: the television actor must memorize his part to be letter perfect in all lines, gestures and area playing positions. Motion pictures are shot in "takes"; that is, one scene at a time, giving the movie actor time to get up on a scene before it is shot. In radio, actors read from a script, although they must rehearse for inflection, timing and cuing. On the stage, actors memorize lines and rehearse for a complete three-act performance. In this respect the stage actors come better equipped into the television field.

These basic characteristics of television govern the fundamentals of the acting technique. It is important that the performer understand these governing factors of the medium.

The Television Actor

Television will draw its actors from radio, the stage and motion pictures and from dramatic schools and amateur ranks. The conditions these performers must meet are:

1. Be able to memorize lines quickly, learn and relearn playing positions and endure concentrated rehearsals just before a performance.

2. Learn to deliver lines exactly as directed and rehearsed:
   a. Because the producer plots his camera shots based on story action and indicates camera cuts and dissolves by "word" cues on a shooting script.
   b. Because the video operator, who makes the camera switches, makes them on the selected "word" cues (as previously set by the producer) from an actor's performance.

b-1. Should an actor omit or change a cue word a camera take may be missed, thereby affecting picture sequence.

3. Cultivate the ability to react at a specific spot in the playing area, directing action to a specific camera, and at the same time keeping in character.
   a. An actor may be required to greet a friend sitting on a sofa. In order for both of them to face toward the camera, the actor may be directed to stand against the arm of the sofa and face down stage, thereby "cheating" on natural body position while greeting the friend.
   b. The actor must learn that "x" actually marks the spot for every piece of stage business and important line crosses or reactions.

4. Learn to act in close quarters, at the same time appearing free and uncramped.
   a. This is governed by the camera's narrow field of vision. In order to get people into the "picture," they must be practically "in each other's arms." Only on long shots can large groups be held in the camera field.

5. Learn to underplay.
   a. The performer must forget the broad gestures and projected voice of the theater where the customer in the last row must be able to hear and see.
   b. In television, normal voice tones (picked up by an overhead microphone) and controlled facial and body expression must be cultivated to appear "natural" to the character.

6. Learn to absorb the strain of rehearsals and concentrate on lines and business.
   a. Many preliminary rehearsals are without props and even without sets. Up to camera or even dress camera rehearsal time, a performer may be required to imagine these items and yet get his actions and entrances and exits set.
   b. Having memorized entrances and positions, a performer may be called upon to unlearn them and relearn new playing positions for a bit of planned action because camera takes did not work or because better angle shots were thought of, or even because a different camera would have to be used for that particular bit of business.
   c. Rehearsals may be long, with some scenes gone over again and again to set action and to coordinate camera coverage. An actor must cultivate concentration and have stamina to meet the strain.

7. Be a trouper before the television cameras.
   a. Learn to cue entrances and lines to a planned camera "take" or to other performer business.
   b. Remember playing position and rehearsed reactions for benefit of a specific camera.
   c. Sustain characterization even though the performance is actually not continuous for every actor in the show. Camera No. 1 may be taking the villain robbing the safe; Camera No. 2 may be cut on the air to show the hero watching from the doorway. Then the action may cut back to the villain gloating over his loot. The villain should not drop his character role while Camera No. 2 (showing the hero) was on the air.

8. Learn the secret of comedy timing before the television cameras without benefit of an audience.
   a. Hints will not help anyone learn the secret of comedy timing. The performer will possess basically a sense of comedy timing or he will not. If he has this sense he can develop his own comedy routine or comedy timing for laughs from his unseen home audience.
   b. Accept the producer's suggestions for effectiveness of visual gags. The comedian cannot see the picture sequence of a routine (remember the television camera is most effective in close-ups) so he must rely on the producer for direction.

9. Learn to work with cameras.
   a. Learn to pick up lines, if necessary, on camera cues. At WRGB, there are two signal lights on the front of each camera—one is green (get set signal, going on the air); the other is red (on the air). The performer,

without seeming to watch the camera, may be directed to go into action when he sees the red signal light up.

b. The actor does not look directly into the camera, unless he has a speech which must be so delivered. This technique is similar to motion pictures.

c. When speaking or looking directly into the camera, the performer must be intimate without being embarrassing to the home audience. Singers, dancers, and actors should concentrate on their performance, leaving camera work to the cameramen and the producer. Occasionally, the performer is directed to face the camera during a specific scene or to walk in toward the camera for a close-up. Only in these cases should a performer be concerned with camera coverage.

10. The actor must possess the ability to take directions.

a. Some scenes may be rehearsed and rehearsed for line reading, for action and for camera coverage. A producer may want to try several camera shots from various angles, by one or even two cameras. He may work and re-work the scene until he is satisfied with a smooth camera picture sequence.

b. The performer must be able to adjust playing lines, to absorb direction and to remember final playing pattern.

The ten points given above should prepare a performer for television and should supply him with a knowledge of what goes on before the cameras as they are dollied in for close-ups or moved about for angle shots. The experienced actor can readily adapt himself to working before the television cameras, even though at times he may feel hemmed in by fellow performers, by lights and by cameras.

The Voice and the Microphone

So far, emphasis has been placed on acting for the benefit of the camera, but a word might be said about the microphone. The sound which accompanies the picture is picked up by a microphone just as it is in radio. In television, though, the microphone hangs overhead, leaving the actor free and unhampered. He can move about and the microphone is moved about with him.

However, when playing with a group, the actor should remember to pitch his voice within the same tonal level, if possible. The microphone, which is on a boom which can be extended, will be moved over the performer with the weaker voice and will stay away from the actor with the stronger voice.

It might be well to note a few voice do's and don't's:

a. Enunciate clearly—never mumble lines. Mumbling is irritating to the home audience who feel cheated when they cannot hear what performers are saying.

b. Take your whispered asides in stride. The microphone boom man will have the microphone in place to catch the line.

c. Learn to scream and have hysterics without volume. Sudden screams blast the microphone. Radio performers will readily understand this.

Television Stars

Television will develop its own coterie of stars—stars that may rival the Hollywood colony in fan popularity. The television actor and actress, however, meet their public on a small screen in the intimate circle of the family, during a performance of a show that demands continuous action. The star, therefore, must possess acting ability as well as personality and looks. In the final analysis, acting ability will make the television star.

XXXIII

The Television Script

THE TELEVISION script, in format, is a combination of a stage play, a scenario and a radio script. There will be many ideas on how it should be set up. Some producers will want the picture instructions (the scene) on the left side of the page and the dialogue (the sound) on the right. Some will want the set-up reversed. No two producers, at this stage of experimentation, agree on the exact format for the working script, but the samples reprinted in this chapter have the approval of the majority of producers at WRGB.

The same divided opinion exists about the set-up of the technical work sheet or log which details the time, studio and scheduled order of programs. A sample log is shown at the end of this chapter.

Sample Television Scripts

Five types of television scripts, either in part or in full, are included here to show script format and to show how camera takes are indicated. They are:

1. Public Service.
   Indicating use of slides, film sequences and dissolves.
2. Children's Show.
   Showing technique of voice over pantomime and fantasy effects.
3. An Original Television Play.
   Indicating use of film to inject outdoor scenes into studio-produced drama.
4. Commercial and Drama.
   Showing introduction from commercial into drama, and showing use of film to establish drama locale.
5. Talk.
   Indicating visual effects—sketches, slides and film—to give movement and pace, making the talk a presentation.

The sample script set-ups show the VIDEO (picture directions) on the left of the page, and the AUDIO (sound) on the right hand half. The pencilled notations are the producer's hieroglyphics indicating camera takes, camera directions, film or slide warnings, and film or slide takes. (See end of chapter for glossary.)

Public Service Program (for the Red Cross)

"PLASMA AT THE BATTLE LINE"

BY JUDY DUPUY

Characters:
- Mrs. Taylor (mother).
- Mrs. Williams (neighbor).
- Johnny Taylor (wounded soldier).
- Red Cross Nurse.

Sets: Two.
- A kitchen.
- A corner of a field hospital.

Video Effects:
- Slides, V-mail letter, film sequence.

VIDEO	AUDIO
#3	
Get camera shot of V-mail letter on table.	MUSIC: Bugle Call.

VIDEO	AUDIO
SLIDE I. Dissolve in slide. **Your Red Cross** **Is** **At His Side** #1 DISSOLVE IN CU letter DOLLY BACK & TILT UP- include Mrs. T at sink	MUSIC: FADE OUT.
SCENE 1. Kitchen: Woman drying dishes, hums as she works. Open letter lying on table. Door on left. Kitchen table and two chairs. CUT to #3 2-SHOT door left FOLLOW	BIZ: WOMAN HUMS AS SHE WORKS. KNOCK ON DOOR. MRS. TAYLOR: (CALLS OUT) Come in.
SCENE 2. Door opens and neighbor comes into kitchen, carrying a measuring cup. Mrs. W. to center. Mrs. T joins	MRS. WILLIAMS: Good morning, Mrs. Taylor. How are you this morning? MRS. TAYLOR: I'm fine. As Johnny would put it, "I'm riding the crest of the wave." MRS. W: Johnny! Then you've heard from him! MRS. T: Yes, this morning . . . after all those long dark weeks since the War Department notified us he was wounded in action. (BREAKS OFF) Here have a chair. Sit down.
CUT to #1 - 2-SHOT at table as Mrs. W sits	MRS. W: Well—just for a minute. I came over to borrow some sugar. I thought I'd whip up a batch of cookies for the children's lunch.
(BREAK #3 to hospital)	MRS. T: The ones with chocolate bits? They're good. I always used to keep a jar full for Johnny . . . and for his father too. To this day Bill likes nothing better than some cookies . . . unless it's apple pie. (BREAKS OFF) Why, Annie, I think I'll make a batch of cookies to send to Johnny.
	MRS. W: He's . . . all right then?
#1 - DOLLY IN slowly on this speech to MED SHOT of Mrs. T. →	MRS. T.: Yes, thank God and the Red Cross, he's all right. He's in a hospital . . . somewhere on one of those outlandish islands . . . (PICKS UP LETTER) Annie, I was so scared when the letter came this morning. Bill had to read it . . . but my boy is safe and well looked after. Do you want to hear what he says?
Continue DOLLY, TILTING DOWN for TCU letter in her hand →	MRS. W: Yes. MRS. T: He starts off—"Dear Mom"—(BREAKS OFF) I can just hear him . . . "I guess by

VIDEO	AUDIO
SCENE 2—continued. Begin DISSOLVE into #3 TCU letter in hosp. bed	MRS. T: this time the War Department has let you know about my being laid up in a hospital (FADE OUT)
SCENE 3. Dissolve in hospital scene. Soldier with head wound (bandaged) writing on a pad. DOLLY BACK, TILT UP on Johnny - MCU →	BIZ: START FADING OUT MRS. T AT "my being laid up" and FADE IN JOHNNY SAYING SAME WORDS JOHNNY: "my being laid up in a hospital. . . . Can you imagine me (writing), tough guy Johnny Taylor, letting a sniping Jap crease me in the skull. But don't you go worrying, Mom. It's just a little crease and I'll be out of here in no time to even up the score . . . and then some. (CONTINUING TO WRITE) . . . Mom, you ought to see the spunky blonde who's running this hut. She sure looked like an angel when I was first brought in.
DOLLY BACK for 2-SHOT hold warn film	NURSE: (COMING INTO SCENE) Hello, soldier. How are tricks today?
(Get #1 on MEDIUM SHOT) of Mrs. T.	JOH: With you around, I'm riding the crest. Say, when do I get out?
	NURSE: Take it easy, soldier. You'll get out soon enough. . . . Writing your girl?
	JOH: Sure, my best girl . . . my Mom. . . . You know, it's kinda hard writing the folks. I don't want them to worry.
	NURSE: Soldier, you tell them about things—how it happened. Your Mom will worry less if she can—well sort of be with you.
	JOH: Thanks blondie. I'll tell them how we licked the pants off them Japs. (WRITING) "It . . . was . . . at . . . Kuria . . . (FADE OUT)
	MRS. T: (FADE IN) "It . . . was . . . at . . . Kuria . . ." (BREAKS OFF) That's one of those islands in the Gilberts. Bill looked it up on the map this morning.
SCENE 4. Fade in kitchen scene—voice of nurse and boy over pix of mother reading. Start film Begin DISSOLVE to #1 on MED SHOT of Mrs. T. DISSOLVE IN film	JOH: "It was at Kuria where we had orders to establish a beach-head. . . . We were lucky. It was raining and there was a mist. This was no ballgame. It was a job—and don't let anyone tell you differently with them Japs hidden like monkeys in trees . . . and then when everything was going all right I had to get in the way of a bullet. And I used to
SCENE 5. FADE IN FILM. (Boy's voice back of film.) Marine Corps film of The Invasion of Tarawa obtained through NBC or Red Cross—about 30 sec. from men advancing on beach through giving plasma.	

VIDEO	AUDIO
SCENE 5—continued.	JOH: be good at ducking all of Bill's bean-balls back home, but this one snuck up on me. . . . But the Red Cross was there on the job, helping guys . . . getting them to the emergency aid station . . . giving them plasma.
DISSOLVE OUT film DISSOLVE IN #3 - CU Johnny	I kinda . . . didn't keep track . . . of things . . . but Mom, thanks to the Red Cross . . . I'm here writing you . . . and today . . . Mom, . . . I don't know . . . what us fellows . . . would do . . . without them . . . and that's no horsefeathers . . .
SCENE 6. Dissolve in boy in hospital bed writing.	
Begin DISSOLVE #1 MED SHOT MRS. T.	
SCENE 7. Dissolve in scene in kitchen.	MRS. T: (reading) . . . "horsefeathers" . . . (COMMENT) such language . . . ". . . and that's about all except, Mom, I'd like to walk up the gravel path when you and dad are at supper and get a bowl of your swell pea soup. Save me a bowlful."
Slow DOLLY BACK to 2-SHOT at table →	
BREAK #3 for MRS. T.	MRS. W: Johnny's a grand boy, Mrs. Taylor. You can be proud of him. I'm glad you heard from him.
	MRS. T: Yes, we were worried. But, here, I'm keeping you. It's way after nine and you want that sugar for cookies for the children's lunch.
	MRS. W: Just half a cup. I'm getting five pounds first thing this afternoon. Do you want to go down town with me? You might get that hat you were looking at the other night when we went to the movies.
CUT to #3 - 2-SHOT	
DOLLY IN to CU of MRS. T. →	MRS. T: Thanks, Annie, but Bill and I, well we sorta planned on going to the Red Cross Blood Center this afternoon. In fact, Bill called up and made an appointment for us right after we'd read Johnny's letter. And anyway, . . . I've decided against the hat. Instead, I'm going to give the money to the Red Cross.
CU here ←	
DISSOLVE IN	
SLIDE II. Fade in Slide of Red Cross Emblem.	BIZ: MUSIC BACK OF SLIDES
	CLOSING FANFARE
SLIDE III. Lap dissolve in slide Give to the Red Cross.	
Hold slides at half-lap.	
Bring in III Full.	
FADE	MUSIC OUT

Children's Show

The second sample script, an adaptation of *The Sleeping Beauty,* retains the make-believe and fantasy of a children's presentation. This can be achieved readily through television, getting effects which are impossible on the stage.

An eight-foot shadow box with a door was built for the stage set. The door was painted to simulate a book cover and the illusion of opening the book, *The Sleeping Beauty,* was created through opening the door of the shadow-box. The inside of the book was deep enough to serve as a stage for the storybook characters.

Here is the complete production script:

"THE SLEEPING BEAUTY"

adapted by Mariana Nelson

Characters:

Sandy, a little girl.
Mother's voice (off-stage).
Linda, the good fairy.
The Queen (can be mother's voice).
The Princess.
The Prince.

Sets: Three:

1. Huge story book with cover that opens with a book-frame stage inside.
2. Couch in corner of living room.
3. Blank curtain or wall for dissolving book in or out of wall.

VIDEO	AUDIO
#1	
SET 1: HUGE BOOK WITH TITLE ON COVER: "THE SLEEPING BEAUTY."	MUSIC: Sleeping Beauty Waltz.
DOLLY IN on title & hold	
DISSOLVE TO:	
SLIDE 1—CAST OF CHARACTERS.	
DISSOLVE TO:	FADE OUT MUSIC.
#3 MED SHOT	
SET 2: SANDY ON COUCH.	SANDY: (ON KNEE LOOKING OVER BACK OF COUCH AFTER MOTHER WHO HAS JUST LEFT ROOM) Please, Mummy, read me a story.
	MOTHER'S VOICE: (OFF) I haven't got time, Sandy. Don't bother me.
#3 DOLLY IN as soon as she faces forward	SANDY: (TURNS ROUND AND BOUNCES DOWN ON COUCH, FACING FORWARD) I wish there was somebody that would read me a story before I have to go to bed. (YAWNS AND CURLS UP ON COUCH)
#2 SET UP A CAMERA ON BLANK CURTAIN.	
#1 SET UP ANOTHER CAMERA FOR SHOT OF BOOK; AS SANDY LOOKS TO RIGHT GET SHOT OF BLANK WALL THEN DISSOLVE IN SHOT OF BOOK.	MUSIC SNEAK IN. Flower Waltz from Nutcracker Suite.

PROPERTY OF
ROBERT L. COE

VIDEO	AUDIO
TAKE #2 DISSOLVE IN #1 FADE UP #1 SANDY ENTERS—ON A MEDIUM LONG SHOT.	SANDY: (LOOKS UP TO LEFT THEN RIGHT CATCHING SIGHT OF BOOK) What's that? Oh, how did that get here? (RISES AND GOES TO BOOK)
#1 - DOLLY IN as BOOK OPENS FOR CU ON FAIRY.	(SANDY LOOKS UP AT COVER, TRIES TO OPEN BOOK, ON THIRD TRY, SHE SUCCEEDS) FAIRY IS FRAMED IN ILLUSTRATION BEHIND COVER.
	SANDY: Who are you?
FADE OUT #1 as SANDY AND LINDA WALK OUT OF SET 1 TO SET 2. PAIR AT COUCH. FADE IN #3 FOLLOW pair to couch	FAIRY: (PUTS HAND ON SANDY'S SHOULDER) My name is Linda. Did you want someone to read you a story? (START WALKING TOWARD COUCH)
	SANDY: Oh, yes. (LINDA AND SANDY SIT ON COUCH. LINDA OPENS SMALL STORY BOOK)
SET UP QUEEN AND CRADLE IN ILLUSTRATION SPACE IN BOOK. CU on #1	LINDA: There now, are you ready? MUSIC: HARP INTRO SHOULD BE TIMED TO FINISH ON THE ABOVE SPEECH SO THAT THE MELODY BEGINS WITH THE WORDS—
#3 - DOLLY IN - Close 2-SHOT →	LINDA: Once upon a time in a kingdom far away there lived a king and queen who wished for nothing in the world so much as that they might have a little daughter. For a long time they had none, but at last—
TAKE #1 CUT FROM SET 2 TO SET 1 TO SHOW QUEEN AND CRADLE AT EYE LEVEL.	SANDY: (LOOKING TOWARD BOOK) Oh, look.
	LINDA: the queen had a little girl who was so beautiful that both she and the king were overjoyed. The King ordered a great feast to be prepared and to it he invited all the fairies in the land, hoping that each would give the baby a magic gift. . . .
TAKE #3 CUT BACK TO MEDIUM CLOSE-UP SHOT ON COUCH.	MUSIC: FADE OUT FLOWER WALTZ—START CHINESE DANCE FROM NUTCRACKER SUITE.
STRIKE QUEEN AND CRADLE AND SET UP SPINNING WHEEL AND FAIRY ON SET 1.	LINDA: But there was one old fairy that the King forgot. She sat all day in a tower spinning
TAKE #1 MED. CU CUT TO FAIRY SPINNING.	

VIDEO	AUDIO
TAKE #3 - MED. CU CUT BACK TO COUCH.	LINDA: busily and had not gone out for fifty years. But she knew of the feast and was very angry not to have been invited.
CHANGE SET 1—GET FAIRY AND SPINNING WHEEL OFF AND GET QUEEN AND CRADLE ON CAMERA READY TO TAKE. on #1	After a splendid banquet the fairies one by one began to give the princess their magic gifts. One gave her beauty, another riches, and so on. But when eleven of the fairies had given their wishes, the angry old fairy appeared. As she advanced to the cradle everyone fled terrorstricken except the queen. The old fairy leaned over the cradle and said in a loud voice—
TAKE #1 CUT TO MEDIUM CLOSE-UP SHOT OF QUEEN AND CRADLE. - DOLLY BACK for fairy	WICKED FAIRY: The princess shall prick her finger on a distaff in her fifteenth year and shall fall down dead.
	SOUND: BE SURE TO FOLLOW LINDA FROM SET 2 TO SET 1.
WARN CAMERA TO GET A VERY CU SHOT OF SANDY'S FACE ALONE. #3 - DOLLY IN	LINDA CONTINUES: And without another word she turned and left the hall. At this awful curse, the poor queen began to cry as if her heart would break, but the twelfth fairy, Linda, whose wish was still unspoken, stepped forward—
#1 HOLD SHOT OF QUEEN AND CRADLE—LINDA ENTERS SET.	MUSIC: CUT CHINESE DANCE START FLOWER WALTZ.
	LINDA: (ENTERS SET 1) I cannot cancel the curse, only soften it. Instead of dying, your daughter will fall into a deep sleep which will last a hundred years. At the end of that time a prince will come to wake her.
CUT to #3 CUT TO CU ON SANDY'S FACE.	SANDY: Oh. Then you're the good fairy.
DOLLY BACK AS SOON AS LINDA IS BACK BESIDE SANDY.	LINDA: Yes. Well then, the king and queen in hopes of preventing the old fairy's wish from coming true ordered that every distaff in the kingdom be burnt. The princess grew up to have all the gifts the good fairies had wished for her. She was beautiful, kind and modest so that everyone loved her dearly and she looked very like the good queen, her mother. But on her fifteenth birthday, as she was wandering through the castle she came to a tower door she had never seen. Curiously she pushed open the door and went in.
STRIKE QUEEN AND CRADLE AND GET FAIRY AND SPINNING WHEEL SET-UP ON SET 1—MEDIUM SHOT. on #1	
TAKE #1 CUT TO FAIRY AND SPINNING WHEEL AS PRINCESS ENTERS.	

VIDEO	AUDIO
	MUSIC: CHINESE DANCE.
	LINDA: She saw the wicked old fairy who was spinning busily. Slowly the princess came nearer to watch. Finally her curiosity got the better of her—
SET UP #3 on Linda and Sandy 2-SHOT MED. CU	PRINCESS: What is this little thing? (POINTING TO DISTAFF)
	LINDA: But the instant she touched the distaff, the curse was fulfilled. She pricked her finger and sank to the floor in a deep sleep. The wicked old fairy laughed delightedly.
CUT TO CLOSE 2-SHOT OF LINDA & SANDY —AS SOON AS WICKED FAIRY EXITS FROM SET 1. TAKE #3	MUSIC: CUT CHINESE DANCE START WALTZ OF THE SYLPHS.
	LINDA: At the same moment all over the castle everyone in it went to sleep, the king and queen in the great hall, the butlers and maids, the cooks in the kitchen and even the grooms in the stable. And round the castle there sprang up a thick hedge of thorns so that no one from the outside could penetrate it, though many tried.
SET UP #2 GET PRINCE ON SET 3—CLOSE-UP SHOT.	SANDY: Then what happened?
	LINDA: Well, for a hundred years the people in the castle slept undisturbed.
GET SHOT ON SLEEPING PRINCESS VERY CU—BOOMED UP AND TILTED DOWN TO CATCH HER FACE AS SHE LIES ON FLOOR. on #1	MUSIC: START SLEEPING BEAUTY WALTZ FADE OUT WALTZ OF SYLPHS.
CUT TO CU OF PRINCE AGAINST BLANK WALL. TAKE #2	
CUT TO SET 2 FOR 2-SHOT OF SANDY AND LINDA ON COUCH. TAKE #3	
TAKE #1 CUT TO CLOSE-UP OF PRINCESS'S FACE. HOLD CU FOR ONLY A MOMENT.	
THEN A VERY FAST DOLLY BACK TO #1 CATCH ENTRANCE OF PRINCE.	Then one day there came to the gate a young prince who had heard the story of the sleeping beauty and was determined to free her. As he stood before the castle a wonderful thing happened. The high thorn hedge parted to let him through. He entered the castle and was amazed to see all the inhabitants lying fast asleep. He went on further and at last reached the tower and opened the door of the little room where the princess slept. She looked so beautiful as she lay there that he could not take his eyes off her. Softly he bent over and kissed her. And as

VIDEO	AUDIO
	LINDA: he did, the princess opened her eyes and smiled at him. (HE HELPS HER UP, THEY BOW TO EACH OTHER, HE OFFERS HIS ARM AND THEY EXIT.)
GET CAMERA READY WITH VERY CU ON SANDY. #3	At the same moment everyone in the castle awoke. The prince took his princess by the hand and led her back into the world she had left for a hundred years. Soon they were married and lived happily ever after.
GET CAMERA READY FOR SHOT OF BLANK WALL—SET 2. #2	
CUT TO CLOSE-UP OF SANDY. TAKE #3	SANDY: Oh, that was a wonderful story. Tell me—Oh, where are you going? Come back!
FAST: GET CAMERA ON BOOK FOR SHOT #1 OF LINDA.	
CUT TO SHOT OF LINDA IN FRAME OF BOOK CLOSING COVER. TAKE #1	LINDA: I must leave you now. Goodbye.
DISSOLVE TO: #2 BLANK WALL (EFFECT OF BOOK DISAPPEARING).	
CUT TO CU OF SANDY. TAKE #3	SANDY: She's gone. And the book too. Oh, I hope she'll come back sometime.
DISSOLVE TO: SLIDE 2	MUSIC UP.
"THE END" FADE	MUSIC OUT

Original Television Script

Excerpts from "The Sound Effects Man."

For the sample original television script, *The Sound Effects Man* by Charles Wilde, special film footage was shot to get outdoor scenes. These film scenes were included for continuity of action and visual effect.

The show opens on a scene in a living room. Margie, the heroine, is sitting before a radio set, intently listening to a radio mystery. This bit of action is included to establish the character, Margie:

VIDEO	AUDIO
MARGIE LEANS OVER AND TURNS OFF RADIO. CUT to #3 (Stand by couch)	MRS. PAYNE: Silly girl! I can imagine your young brother listening to those nickelodeon horrors, but you . . .
BREAK #2 for studio set	MARGIE: Anyone except me! Maybe you're right. Maybe I am silly, but these programs with the sound effects get me just like pinball games get a drugstore cowboy. I can't keep away from them.

VIDEO

FOLLOW Mrs. Payne to davenport

AUDIO

MRS. PAYNE: Well, just try keeping away from them for an hour, at least. It's almost supper time, and if I can have the davenport, for a few moments, you can set the table.

MARGIE: Sure, Mom, take it easy.

MRS. PAYNE: Are you sure you've heard all the thrillers for awhile?

MARGIE: I guess so, let's see. I've heard "Roads of Crime," "The Gray Rider," "Buccaneer Days" . . . I think that's all.

Margie obtains tickets to a broadcast of *Roads of Crime,* and eventually meets Bob, the sound effects man. For this scene a regular studio broadcasting set was erected complete with radio sound effects equipment. A scene of *Roads of Crime* was enacted. Margie sees the glamorous Gloria. We again pick up the script to show how a film sequence was used for movement and story continuity:

#3 - MCU

Warn movie

BOB: Really? Well, I'm sorry I couldn't introduce you to Gloria, but maybe some other time. But come on. They're closing. We'd better get out.

MARGIE: A good idea. Mother will be wondering what's become of me. She always does when I don't make that six o'clock bus.

BOB: How about letting me drive you home.

MARGIE: Would you? It would help, if it isn't too much trouble.

BOB: Always worrying about the trouble! Come on. My car's out back.

FO #3

F IN #4 (movie)

MUSIC: FADE IN AND BACK SCENE

MUSIC BACKGROUND THROUGH BELOW. FADE OUT AND INTO MOVIE SEQUENCE. BOB AND MARGIE LEAVE STUDIO BUILDING, GET INTO CAR AND DRIVE AWAY. CONNECTING SCENE OF CAR ON ROAD, FOLLOWED BY CAR STOPPING IN FRONT OF MARGIE'S HOUSE. THEY GET OUT AND GO UP STEPS. MARGIE OPENS DOOR. THEY ENTER. SCENE FADES AS DOOR CLOSES. FADE INTO MARGIE AND BOB IN HALL.

FO #4 (movie)

F IN #2 CU on stairs

MARGIE: Thanks a lot.

BOB: Not at all. But . . . by the way . . . my name's Bob Austin. What's yours?

CUT #3 CU 2-SHOT

VIDEO

AUDIO

MARGIE: Margie Payne.

BOB: Margie Payne. Say, Margie, would you care to see the next episode of "Roads of Crime" tomorrow?

Then over on page 14 of the script, this bit of action is picked up showing how film was used for a montage effect to establish the growth of friendship between Margie and Bob and to indicate considerable lapse of time:

#2 - 2-SHOT

warm movie

FO #2

F IN #4 (movie)

FADE. IN ON CLOSE-UP OF TELEPHONE RINGING. MARGIE'S HAND PICKS UP RECEIVER. GO INTO MOVIE SEQUENCE WITH VARIOUS SCENES OF MARGIE AND BOB ON DATES. BEFORE EACH SCENE BLEND IN TELEPHONE. CONTINUE FOR SEVERAL SCENES AND CLOSE ON TELEPHONE. LONG SHOT OF MARGIE ANSWERING. FOLLOW BY SHOT OF GLORIA MANNERS AT PHONE. MARGIE ANSWERS ON FILTER.

MARGIE: Already?

BOB: I'd like to stay longer, but Fatty Slim McVane wants me to run over the show with him. There are some tricky bits in it.

MARGIE: Well, if you must . . . call me tomorrow?

BOB: Tomorrow and every day . . . just so long as I know you'll be around to answer.

MUSIC: FADE IN

SOUND: TELEPHONE BELL

FO #4

F IN #2

DISSOLVE IN #3
Hoed at HALF LAP

GLORIA: Miss Payne. (on FILTER)

MARGIE: Yes.

GLORIA: This is Gloria Manners speaking. Is Mr. Austin there?

MARGIE: No, he isn't.

GLORIA: I'm so sorry, but one of the pages at the studio said I might possibly reach him at your home. Forgive me.

FO #3

CLOSE-UP OF MARGIE AT PHONE. SHE PLACES RECEIVER ON HOOK AND SITS DOWN. #2

There is considerable more to the production (it was a half-hour show) but the use of film for movement and time elapse has been demonstrated.

Commercial and Drama

The fourth sample script includes the opening commercial as well as a portion of the play, *Death on Flight Forty*. The asterisks which appear in the sample indicate, according to this producer, a light cue to the studio.

OPENING COMMERCIAL

VIDEO	AUDIO
I SLIDE: "DEATH ON FLIGHT FORTY"	MUSIC: UP FULL "Knee Deep in Clouds."
DISSOLVE INTO CARD ON EASEL #3 "PRESENTED BY General Electric Mazda Lamps"	
II SLIDE: "THEY STAY BRIGHTER LONGER"	MUSIC OUT
Light cue *	ANNOUNCER: (MAN) Ladies and gentlemen, before we board our plane for what may turn out to be a rather adventurous trip on Flight 40 . . . we'd like to tell you *one* fact about General Electric research. This doesn't concern startling scientific developments made for the war effort. They are military secrets. It's about a development you may have forgotten. It's added so much to your comfort and convenience—that you just take it for granted.
Change setting on card on #3	
DISSOLVE INTO #3	
DISSOLVE INTO SLIDE III PICTURE OF "MODERN" G.E. LAMP, IN SETTING THAT DUPLICATES STUDIO SETTING.	Look at this G.E. Mazda lamp.
Change CARD on #3	It's the modern, 100 Watt lamp you use in your own home. Here's a close-up of it.
#3	Now, I'm going to show you an *old-timer*—a real "museum piece." Believe it or not, this large lamp is *also* a 100 Watt G.E. Mazda Lamp. It was in vogue way back during the first World War. Remember this point?
(FINGER FEELS POINT. JUMPS AWAY AS THOUGH PRICKED.)	This "old-timer" is pretty big and clumsy, isn't it? And compared with the modern, 1943 model, its price was bigger too *
LAP DISSOLVE SLIDE IV "old time price—80 cents."	Eighty cents! *
#3	What a difference from the price of this streamlined, 1943 G.E. Mazda lamp which costs the low, streamlined price of only *thirteen* cents. * That's right . . . count 'em . . . a dime and three pennies . . . only thirteen cents. *
ANNOUNCER HOLDS UP MODERN LAMP.	
DISSOLVE IN FULL. SLIDE V WITH DIME AND THREE PENNIES.	
* Light cue	

VIDEO	AUDIO
DISSOLVE TO CAMERA ANNOUNCER WITH BOTH BULBS. #3	ANNOUNCER: But the most startling difference between these lamps is the amount of light they give. Actually, this modern (INDICATES) 100 Watt lamp gives about 50% more light than this 100 Watt lamp of 1914. What makes the difference? G.E. *research*—research that has always had for its goal—to give the public more and more light at lower and lower cost. Always remember—this modern, G.E. Mazda lamp is *made to stay brighter longer.* ✱
LAP DISSOLVE SLIDE VI. "50% more light."	
#3 TILT UP on Carol	
#3	ANNOUNCER: (SURPRISED) Well good evening. Who are you . . .
	CAROL: (FACING CAMERA) Why, I'm the hostess on Flight Forty for Minneapolis and Chicago. . . . There are several vacant seats. . . . You're coming, aren't you?
	ANNOUNCER: Why . . . yes.
FADE OUT FADE IN SLIDES	CAROL: (SMILING FULL INTO CAMERA) Then your plane is ready.

"DEATH ON FLIGHT FORTY"

STOCK SHOT: DC3 PASSENGER LINER IN THE AIR.	SOUND: MOTORS UP HIGH.
DISSOLVE TO: I & VII SLIDE: DEATH ON FLIGHT FORTY.	SOUND: FADE AIRPLANE MOTORS.
SLIDE: VIII WRITTEN FOR TELEVISION BY HENRY LAROM.	
SLIDE: IX FEATURING (insert cast).	
DISSOLVE BACK TO: STOCK SHOT DC3 IN THE AIR.	SOUND: AIRPLANE MOTORS DOWN.
	MALE VOICE: (FILTER MIKE) Flight Forty calling Minneapolis. . . . Flight Forty calling Minneapolis. . . . Now over Fargo. . . . Passing Fargo. . . . Ceiling unlimited. . . . Everything routine.
SLOW DISSOLVE FROM STOCK SHOT TO: #1 ✱ Light Cue	

VIDEO	AUDIO
LONG SHOT OF RIGHT SIDE OF PASSENGER CABIN, SHOWING FIVE SEATS. AT REAR OF PLANE. HOSTESS IS POURING COFFEE FROM THERMOS INTO PAPER CUPS. IN REAR SEAT IS SERGEANT JOHNNIE MULVAY WATCHING HER. IN FRONT OF HER IS FAT, MIDDLE-AGED BUSINESS MAN. TWO FORWARD SEATS CONTAIN MEN, ONE TALL, THE OTHER SHORT. THE TALL MAN WEARS AN OVERCOAT.	SOUND: AIRPLANE MOTORS JUST INDICATED VERY LOW.
	* JOHNNIE: Say, Hostess!
	CAROL: Yes, sir.
	JOHNNIE: What time do we eat?
	CAROL: Sorry, sir. We serve no meals on this flight.
	JOHNNIE: Okay. Now answer these questions honestly. First. Could you enjoy six delicious oysters on the half-shell, cooled in shaved ice, and ready to dip into tangy cocktail sauce with plenty of horse radish?
	CAROL: Well . . . Yes. I'm afraid I could.
	JOHNNIE: Very well. . . . Second, could you follow that with a tender T-bone steak, broiled over charcoal and smothered in onions?
	CAROL: . . . and maybe some fresh green peas.
	JOHNNIE: Sure. And after that we could have—
	CAROL: (BREAKING IN DREAMILY) A big wooden bowl filled with crisp romaine lettuce, chopped cucumbers, alligator pears, tomatoes and things . . . with just a *hint* . . . a smear of garlic rubbed around the edge of the bowl.
	JOHNNIE: We could follow that with pie à la mode.
	CAROL: And demi-tasse and candy mints— (TAKE) Gee whiz . . . You're right. I *am* hungry.
	JOHNNIE: What did I tell you! Lady, you're starving. But we'll fix that as soon as we get to Joe's Steak House in Minneapolis.

DOLLY IN for 2-SHOT

Get #3 on CAROL

#3

#1

Get #3 back for 2-SHOT Carol to L

* Light cue

VIDEO	AUDIO
	CAROL: Oh, I see it all now. Well, I'm afraid that's against regulations—dining with passengers.
SHE STARTS PAST HIM. #3	JOHNNIE: Wait a minute! I guess maybe I better tell you the *real* truth. You see, it so happens I've been voted Pin-Up Man of the Minneapolis Lady Riveters Club. They're waiting for me at the airport. You've got to protect me. It's your patriotic duty.
SHE TURNS AROUND AND GETS HIM A PILLOW. #1	CAROL: I'm sorry, Sergeant. But I have work to do. And I'm afraid those maneuvers have made you very, very, tired . . . and just a little wacky.
	JOHNNIE: Well, gee, thanks for the pillow. But—
SHE PICKS UP TRAY WITH COFFEE, ETC., AND STARTS UP THE AISLE. STOPS BY FAT MAN. PAN L Get #3 on Carol + Woman and Child	CAROL: (STARTING BY WITH COFFEE) Sleep well.
	JOHNNIE: Can I dream about you?
	CAROL: (LAUGHING) Yes. But don't go too far.
	FAT MAN: Say, Miss, how come they had vacant seats on this plane tonight. It's only half full.
	CAROL: There were a bunch of cancellations just before we took off, sir. Army or something.
	FAT MAN: (CONFIDENTIALLY) (GRINS) I guess I was pretty lucky to get a seat. Say, he's a nice kid, isn't he? (POINTS THUMB AT SERGEANT)
CAMERA DOLLIES UP TO CATCH THE CONFIDENTIAL EXCHANGE.	CAROL: Yes. He's so darn happy!
	FAT MAN: Yeah . . . And, say, confidentially, I heard about that dinner invitation. Are you going to give him a break?
	CAROL: Well, don't tell him I said so . . . But it's just possible I *might* (WINKS) . . . (TO WOMAN WITH BABY) Are you and the baby comfortable? (WOMAN NODS. SMILES) That's good. Let me know if I can heat the baby's bottle or anything.
SHE GOES ON TO WOMAN WITH BABY. #3 #1 - PAN L and DOLLY BACK	
CAMERA: FOLLOWS HER PAST THE TWO MEN IN THE FRONT SEATS. SHE HOLDS TRAY IN ONE HAND WHILE SHE GETS KEY TO THE PILOT'S	

VIDEO	AUDIO
CABIN FROM HER POCKET WITH THE OTHER.	MUSIC: START SNEAKING IN TENSE MUSIC
CAMERA: ACTION: AS SHE PUTS KEY IN THE LOCK THE TWO MEN GET UP, BEHIND HER. CAMERA IS ALSO SLIGHTLY BEHIND HER SO THAT, AS MEN STAND, YOU CAN HARDLY SEE HER. THE TALL MAN PUSHES HER ASIDE. SHE IS OFF BALANCE AND HAS TO PUT TRAY ON FLOOR HURRIEDLY. Get #3 on Fat Man and woman	TALL MAN (VON STAHM): You will excuse us, please.
	CAROL: Here, what are you doing. Leave that door alone. You're not allowed in there.
SHORT MAN GETS DOOR OPEN AND SLIPS INSIDE. TALL MAN FOLLOWS. TURNS AS HE GETS INSIDE DOORWAY TO FINISH LAST SPEECH.	VON STAHM: Department of Commerce . . . You will not interfere.
	CAROL: STOP THAT! Let's see your papers. How do I know you're Department of Commerce?
HE CLOSES DOOR. SHE PULLS ON IT. YANKS ON IT. BUT IT IS HELD FROM INSIDE.	VON STAHM: Do not disturb the passengers. Please.
CAMERA: DOLLY UP FOR CLOSE-UP OF HER FACE AS SHE TURNS AROUND TO FACE PASSENGERS. DOLLY IN	MUSIC: UP HIGH . . . THEN TENSE . . . FADE OUT.
#3 PAN R slowly to JOHNNY WOMAN IS LOOKING AT BABY. FAT MAN IS READING MAGAZINE. STOP CAMERA ON SOLDIER, SLEEPING.	
DISSOLVE TO: KEEP SHOT ON #3 STOCK SHOT: PLANE BANKING IN TURN.	SOUND: AIRPLANE MOTORS THROUGH MUSIC.
	MUSIC: KILL AS CAMERA GOES BACK TO STAGE.
DISSOLVE TO: #3 CAMERA: CLOSE-UP OF JOHNNIE SLEEP-	

VIDEO	AUDIO
ING. CAROL'S HAND AND SHOULDER COME INTO SCENE. SHE SHAKES HIM.	CAROL: Sergeant Mulvay . . . Wake up, Sergeant Mulvay.
Get #1 on MED. 2-SHOT	JOHNNY: (WAKES. SMILES BLISSFULLY) (SIGHS) Just call me Johnnie.
	CAROL: Listen. This is serious. Something I don't want the passengers to overhear.
#1 → CUT TO CAMERA: FOLLOWS THEM TO BACK OF PLANE.	JOHNNIE: (AS HE GETS UP) I kind of feel that way, too. I wish we could throw all the passengers out the window . . . and just us two keep on flying along—alone, together.
#3 on CLOSE 2-SHOT →	CAROL: Stop that! And listen to me. I'm not supposed to ask help from passengers. But you're a soldier . . . and I can trust you, can't I?
	JOHNNIE: (REALLY NOTICING HER WORRY FOR THE FIRST TIME) Sure! You bet you can. Say, what's the matter? You look kinda desperate with your cap on crooked. (HE STRAIGHTENS IT FOR HER)
	CAROL: I *am* desperate, I guess . . . or rattled. But when these two men pushed me—
	JOHNNIE: Who pushed you? What two men?—those Rover boys in the front seats?
	CAROL: Well, that's the trouble. They're in the pilot's cabin.
	JOHNNIE: The pilot's cabin! (PAUSE . . . HE BEGINS TO GET IT.) But don't you have to keep that locked?
	CAROL: Sure. They got in when I opened the door to take the boys some coffee. They said they were Department of Commerce Inspectors.
	JOHNNIE: (THINKING . . . SCRATCHING HEAD) But you don't think they are, huh?
	CAROL: Well, I might as well admit it . . . This is my first trip and I don't know. I might be completely wrong . . . But *why* would an inspector hold the door from the inside?
	JOHNNIE: That's the sixty-four-dollar question . . . What do you want me to do?

VIDEO	AUDIO
	CAROL: Open that door.
	JOHNNIE: Say, wait a minute. Have these guys got any bags?
	CAROL: No . . . Just two boxes . . . They're up front by their seats.
	JOHNNIE: Huh! Don't sound like Government men. I'm going to get those boxes. We'll find out what kind of guys they are. You stay here. Don't let's get the passengers excited yet, huh?
CLOSE-UP	CAROL: (SMILING) Okay, Johnnie.
SLOW DISSOLVE TO:	
STOCK SHOT: AIRPORT CONTROL TOWER.	⊛VOICE: (ON FILTER) Calling Flight Forty . . . Routine report from Flight Forty . . . (VOICE BECOMES MORE INSISTENT) Come in Flight Forty . . . Calling Flight Forty . . .
CUT TO:	
STOCK SHOT DC3 IN FLIGHT.	SOUND: AIRPLANE MOTORS UP.
DISSOLVE TO: #1 JOHNNIE SLIDING TWO CARTONS BEHIND REAR SEAT.	⊛JOHNNIE: These Department of Commerce guys must be taking home all their dirty laundry at once.
TWO-SHOT OF JOHNNIE AND CAROL LOOKING DOWN AT CARTONS, WITHOUT SHOWING CARTONS.	(BUSINESS OF UNTYING STRING)
	Or maybe they got a baby alligator in here. They sure got her tied up tight. (OPEN LARGE CLASP KNIFE TO CUT KNOT) This'll fix it.
GET #3 in close ready to pick up parachute	CAROL: Hurry up! I'd hate to be caught doing this. And be sure you put that string back on . . . Oh! (GASPS) . . . (BOTH FACES SHOW SURPRISE)
	JOHNNIE: What in—Holy jumping—*What* would a Department of Commerce Inspector want with *that!*
#3 ACTION: JOHNNIE'S HANDS BRING UP PARACHUTE FROM CARTON BOX.	CAROL: A parachute . . . Oh, there's something wrong . . . terribly wrong! We've got to get in there Johnnie. You've got to help me —(BOTH LOOK UP AT SOUND)
GET #1 back for MED. SHOT of group ⊛ Light cue	

VIDEO	AUDIO
#1	LIVE SOUND: BUZZER. INSISTENT BUZZER.
LONG SHOT OF PASSENGERS MOVING AROUND. TURNING TO LOOK AT HOSTESS. CAROL GOES TO HIM.	FAT MAN: Hey, Miss . . . Is this Minneapolis already?
DOLLY IN	CAROL: I doubt it, sir. If it is, we're a half an hour early.
	FAT MAN: (LOOKING OUT WINDOW) Don't see anything that looks like an airport.
GET #3 on door L - MED SHOT	CAROL: (LEANS ACROSS HIM TO LOOK OUT WINDOW) Neither do I . . . No city either. I'll let you know as soon as I find out.
	FAT MAN: Oh-oh! I bet it's bumpy weather. Tie me down good, lady. If I bust loose and start rolling around, the ship'll fall apart. (SHE TIGHTENS HIS SEAT BELT AS JOHNNIE COMES UP)
ACTION: JOHNNIE HAVING PUT STRING BACK ON PICKS UP KNIFE. IS SLIPPING IT INTO HIS POCKET AS HE COMES UP BEHIND CAROL.	
DOLLY BACK #1 and PAN LEFT	JOHNNIE: Come on! Let's open up that door.

That is sufficient of *Flight Forty*. To round up the story though, Johnnie did get the door open. One Nazi managed to get out of the cabin; Johnnie wounded the other in the shoulder. The Nazi who escaped from the cabin got into the parachute and jumped from the plane, only the parachute didn't open. The plane was landed safely, the play ending with a boy and girl clinch.

In *Flight Forty*, the locale of the play's action aboard a plane in flight was projected by the use of a film loop (stock shots) showing a DC-3 in flight and a second sequence showing the plane banking in a turn. The stock shot of the control tower added to the suspense of the scenes.

The Talk Dramatized

In the fifth sample, a talk on *The History of Tea and How to Make It*, use was made of dramatic skits, slides and film for visual appeal to hold televiewer interest. Otherwise, a talk would not be television. The script was prepared by Earl Newsom & Company for the Tea Bureau, Inc.

"THE HISTORY OF TEA
AND
HOW TO MAKE IT"

VIDEO	AUDIO
FADE IN LEAD AND CREDIT TITLES	MUSIC: INTRODUCTORY PLAYED FROM PLATTER OF CHINESE MUSIC FOR 15 TO 20 SECONDS
SLIDE I — The History of Tea and How to Make It	

VIDEO	AUDIO
SLIDE II { by Tea Bureau, Inc.	
SCENE 1 REVERSE POLARITY CHINESE PHILOSOPHER IS SEATED ON GROUND, HEAD ON CHEST, ASLEEP GET #1 on Herb - Med. GET #3 on tea plant - Med. CU DISSOLVE into #1	MUSIC: FADE OUT ANNOUNCER: (AS MUSIC FADED) (OFF-CAMERA) Marco Polo had not been born. And the fish, instead of navies, still ruled the seas. The yellowed pages of withered parchment state that it was noon.
	MUSIC OUT
DOLLY IN →	Under the hot sun sat a Chinese philosopher. He was motionless and his head nodded slightly in sleep. Suddenly he opened his eyes and began beating his chest in despair. Known as "The Alert One" he was in great distress. He had slumbered in the middle of the day—something he had never done before. To punish himself, he plucked an eyelash and flung it to the ground at his feet.
CHINESE PHILOSOPHER SIMULATES PLUCKING EYELASH AND FLINGING SAME TO GROUND. ANNOUNCER PAUSES AS HE DOES THIS AND THEN CONTINUES: #3	WARN MUSIC To his amazement, it began to sprout immediately as a small green plant, which looked something like this —
SCENE 2 CLOSE-UP OF REPLICA OF TEA PLANT OR REAL POTTED TEA PLANT. BREAK #1 on Ann TILT UP →	ANNOUNCER CONTINUES: True to his reputation as a wise man, renowned for examining everything that appeared strange to him, "The Alert One" picked one of the top leaves and nibbled on it . . . Like this . . .
SCENE 3 CHINESE PHILOSOPHER TASTES LEAF CAUTIOUSLY AT FIRST, THEN SMILES AND NODS HIS HEAD. (*) Light Cue	MUSIC: START SOFTLY ANNOUNCER CONTINUES: Pleased, "The Alert One" grunted. And the grunt went something like this—

VIDEO	AUDIO
	CHINAMAN (SMILING INTO CAMERA): . . . Cha . . .
	HE REPEATS (SMILING WIDER): . . . Cha-Cha . . .
SWELL UP for PAN to →	MUSIC: PLATTER OF CHINESE MUSIC PLAYS AS CAMERA LEAVES CHINAMAN—About 5 to 10 seconds.
SCENE 4	
CAMERA PICKS UP ANNOUNCER. DISSOLVE into #1 →	ANNOUNCER (SMILING): In case you didn't catch it, what our friend, "The Alert One," said was *Cha*. Probably his way of saying okay. At any rate, it stuck as the name of the plant. And today, the translation of Cha into English is *T-e-a*. Anyway, that's the way it was—according to the Chinese Mother Goose. But in order to tell you more about it, we have with us tonight one of the world's leading authorities on *tea*—Mr. George F. Mitchell. Mr. Mitchell is president of the Tea Association of the United States, and a member of the U. S. Board of Tea Experts.
GET #3 on Mr. Mitchell DOLLY BACK for 2-SHOT →	
SCENE 7	
LONG-RANGE CAMERA PICKS UP ANNOUNCER FIRST, WITH MITCHELL COMING IN; AS ANNOUNCER CONTINUES.	ANNOUNCER CONTINUES: You've visited practically every country where tea is grown. Is that right Mr. Mitchell?
	MITCHELL: Well, a good many. But I wouldn't say all. That would be taking in too much territory. There are *nine* of them that grow enough to sell it in large quantities to the rest of the world. That is, in normal times.
	ANNOUNCER: That doesn't leave us much tea, now, does it Mr. Mitchell?
#3 CU →	MITCHELL: Well, it shouldn't. But the surprising fact is that while *India* and *Ceylon* are the only two countries supplying tea to the United Nations, we're getting 75 per cent of what we used to get before the war. In pounds that's about 75 million.
#1-2-SHOT →	ANNOUNCER: Do you mean to say we used to drink *100 million* pounds of tea a year in this country?
	MITCHELL: That's right, Mr. Algeo. This country is the second largest tea market in the world. Second only to the *United Kingdom*.

VIDEO	AUDIO
A couple of pages are skipped and then:	
WARN SLIDE III #3-CU	MITCHELL CONTINUES: And speaking of trade, Mr. Algeo, you know tea actually opened up the Far East to the New World.
#1-2-SHOT	ANNOUNCER: No, I didn't know that. I thought it was spices and silk. Or something like that.
#3-CU	MITCHELL: They all figured, of course. But it was tea that started it. Right after the War of 1812 we started going to town in a *trading* way. By 1840 our merchants were up against it. The British, Dutch and French boats were beating our own slow hulks to our own ports with tea cargoes. But we found the answer.
#1	ANNOUNCER: Not steam?
SCENE 10 DISSOLVE IN SLIDE III CLOSE-UP CAMERA PICKS UP PRINT OF *RAINBOW* FIRST MODERN CLIPPER.	MITCHELL: No sir. The fastest and loveliest sailing ships ever built. *The Tea Clippers.*
Polarity back to normal	MITCHELL (VOICE CONTINUES): The Rainbow was quite a ship. Old salt water men who saw her first in blue-print swore she could never float topside up—let alone sail. But sail she did. She went out to China on her first run in 92 days, and came back in *88*. About twice as fast as the old style ships.
#3	
A few more pages are skipped to the introduction into the film strip of the British Tea Cars to show how it was cut into the "talk."	
WARN FILM "London Night"	MITCHELL: The English like their tea. Take their *tea cars* as an example.
#3	ANNOUNCER: *Tea* cars?
	MITCHELL: (NODDING) Yes. They were put into use in England just before the war began. The Empire Tea Bureau started them, and operated them in cooperation with the Y.M.C.A. Later, other organizations ran them too. You see, Mr. Algeo, there were many men in Home Defense units, manning anti-aircraft guns and barrage balloons stationed far from any towns. And they had to be fed. These cars were put to their first test during the early great Blitz—
FILM CUE	*When England stood alone—*
SCENE 15 CUT-IN TO SHORT RUN OF THE FILM "LONDON NIGHT."	(AD LIB TO FILM SEQUENCE ABOUT TWO MINUTES)

VIDEO

AUDIO

#1 - 2-SHOT

ANNOUNCER: Are these tea cars used now, Mr. Mitchell—outside England I mean? On the fighting fronts?

MITCHELL: So much so, Mr. Algeo, that they're as familiar a part of the Britisher's front-line scene as Jerries, bayonets and guns. Give the British Tommy his tea, and he'll tackle a regiment all by himself. Tea cars—24 of them—were with the Tommies and the French on the beach at Dunkirk. And more tea cars went to *Africa, Abyssinia, Greece, Egypt, Iceland.* They're in *Italy* right now.

#3

BREAK #1 for table

SLIGHT PAUSE

Tea, you see, has proved itself the Fighting Man's Drink . . . Well, you know that's what I meant about our American boys overseas. It wouldn't surprise me a whole lot if they come home demanding tea and getting it made right.

FADE OUT

SCENE 18

LONG SHOT CAMERA PICKS UP YOUNG MAN SEATED AT FAMILY LUNCH TABLE.

FADE IN #1

YOUNG MAN: (GRIMACING) Whew . . .
(HE HAS JUST LOWERED TEACUP TO SAUCER, AND LOOKS AT HIS WIFE AS HE WIPES MOUTH WITH NAPKIN . . . THEN CONTINUES)
I thought I said *tea.*

WIFE: (PUCKERING) But dear, that *is* tea. Anyway, the grocer said it was.

YOUNG MAN: (SHAKING HEAD) Maybe it *was.* But it isn't now. Come on out in the kitchen with me. I'm going to give you a lesson.

(YOUNG MAN AND WIFE LEAVE TABLE)

SCENE 19

LONG SHOT CAMERA COMES BACK TO ANNOUNCER AND MITCHELL SEATED ON COUCH.

CUT to #3

MITCHELL: It wouldn't even surprise me if a lot of young men went right out into their kitchens and gave their wives, mothers or sweethearts a one-two-three lesson in making a good cup of tea.

Light cue

VIDEO	AUDIO
FADE OUT	ANNOUNCER: Well, you may be right at that.
SCENE 20 LONG SHOT CAMERA PICKS UP WIFE AND YOUNG MAN AT KITCHEN STOVE.	
FADE IN #1	YOUNG MAN: (SMILING AS WIFE LOOKS ON) There are only three rules for making a really *good* cup of tea. The way we had it in *Ireland, England* and *Italy*. The first is *one* heaping teaspoon for *each* cup, plus one for the pot.
DOLLY IN on BUS	(HE MEASURES OUT FIVE TEASPOONS AND DUMPS THEM IN POT)
	I'm going to make four, because *I'll* want a second cup. And *you* will too, when you *taste* it.
DOLLY OUT hold 2-SHOT	(HE THEN PEERS AT WATER BOILING ON STOVE, NODS HIS HEAD AND BRINGS TEAPOT TO STOVE)
	The second rule is to make sure the water is boiling. And I mean bubbles. Not just *looking* hot, or *steaming*. The idea is to get the tightly curled tea leaves too unfold. And they won't unfold all the way unless the water is boiling.
	(HE THEN POURS WATER INTO POT, PUTS LID ON AND NOTES THE TIME BY THE KITCHEN CLOCK)
SCENE 21 CLOSEUP CAMERA PICKS UP FACE OF CLOCK, SET AT EXACTLY 12:30.	YOUNG MAN: (CONTINUES) If it's too strong, you can always fix it up to taste by adding hot water afterwards. If it's too weak, you can't do anything about it.
	(HE LOOKS AT CLOCK AND THEN POURS BREW OFF INTO SILVER POT, SMILES AND MOTIONS TO WIFE)
FADE OUT	Come on. Now you're going to taste tea that *is* tea.
SCENE 23 LONG SHOT CAMERA PICKS UP YOUNG MAN AND WIFE BACK AT DINING ROOM TABLE	
FADE IN #1	WIFE (PUTTING DOWN CUP AND SMILING): It's *wonderful*.
PAN to table QUICK!	YOUNG MAN: (GRINNING) I *knew* you'd like it.

The tea program normally would have ended here but a special film had been shot of "tea tasting" and this was tacked on at this point after a brief introduction. Mr. Mitchell explained how tea was brought into the New York Harbor, taken to the tea laboratory and how the various types of tea are sniffed and tasted. The commentary was timed to fit the film and was synchronized with it.

Glossary of Producer's Notations

The sample television scripts not only show the format but also camera directions. The notes below will help decipher the camera notations.

At WRGB there are three studio cameras. They are indicated by No. 1, No. 2 and No. 3. Some of the producer's hieroglyphics mean:

BREAK—get free camera set up for next shot. This is usually indicated where fast moves must be made. Usually, cameramen know the sequence of shots.

CU—close-up.

MEDIUM CU, MCU or MED CU—medium close-up.

TCU—tight close-up.

CUT—switch picture or cut camera immediately (no fade).

DISSOLVE—dissolve or bring in slowly one picture at the same time dissolving out the first picture.

DISSOLVE OUT—dissolve out.

DISSOLVE IN—dissolve in.

LAP DISSOLVE or HOLD AT HALF LAP—hold pictures at the point where both are seen at their fullest clarity (one faded half in, the other faded half out)

FADE—gradually bring in a picture full, or gradually take a picture out.

FADE IN or F IN—Fade in.

FADE OUT or F OUT—Fade out.

MEDIUM SHOT or MED SHOT—Medium shot—(medium close-up or medium long shot).

PAN—move camera in a horizontal plane—to left or to right.

PAN LEFT or PAN L—pan left.

PAN RIGHT or PAN R—pan right.

TILT—move camera in a vertical plane—up or down.

TILT UP—tip camera back to point up for shot.

TWO-SHOT or 2-SHOT—composition of two people.

TAKE # 1—Take in this sense means cut # 1 camera on the air. "Take" in connection with camera pictures or camera shots means the individual scene or picture held on a camera.

WARN FILM—warn projectionist that the film sequence is about to be cut in on the air.

CHANGE POLARITY—polarity in the camera associated with the film projector is reversed when opaque slides or negative film is used. It's essential to reverse the polarity back to normal when the opaque slide or negative film sequence is over to be ready for normal operation of the film projector. Verbal warning is given projectionist as a reminder when quick changes are required.

The Technical Work Sheet

Before closing this chapter on scripts, a word should be said about the Technical Work Sheet.

A Technical Work Sheet or log is made out by the technical staff, indicating time, programs, stage sets, cameras, audio operations and film-projection room operations for each day's on-the-air schedule. The Work

Sheet cues or coordinates the operation of all personnel connected with the production of shows, from the time the station signs-on to sign-off. Since WRGB operates two hours on three evenings a week with time divided more or less equally between film and live studio shows, the Work Sheet covers this two-hour period, the half-hour test pattern time and other operating time necessary to put the station on the air. Copies of the Work Sheet go to all personnel responsible for particular operations.

A sample Work Sheet is shown below:

TECHNICAL WORK SHEET

Sunday, August 6, 1944

Time PM	Program	Set	Camera	Audio	Projection
6:15	W2XGE Sign-on			W2XGE ET	
6:15:15	Test Pattern & Audio		4	ET Test	TP Slide
6:25	Modulation & Pulses out				
6:28	Pulses In				
6:30	WRGB sign-on		4	WRGB ID ET	ID Slide
6:30:15	Test Pattern		4	ET Music	TP Slide
6:59:45	WRGB Id.		4	WRGB ID	ID Slide
7:00:00	Evensong—Rotterdam Junction Methodist Church				
	1. Choir	2	1&3	Boom	Ready with
	2. Scripture & Prayer	2	1&3	Boom	film ID
	3. Choir	2	1&3	Boom	and
	4. Sermon	2	1&3	Boom	cartoon
	5. Choir	2	1&3	Boom	
7:15:00	Announcer (week's programs) (intro to Whipple)	1	2	Ann. Mike	
7:18:00	Arlene Whipple (monologues)	3	1&3	Boom	
	Announcer	1	2	Ann. Mike	
	Arlene Whipple	3	1&3	Boom	
	Announcer	1	2	Ann. Mike	
	Arlene Whipple	3	1&3	Boom	
7:33:00	Open Film Id		4	Film Id	Film Id
7:33:11	"Cubby Stratosphere Flight"		5	PE cell	1 reel
7:40:11	Announcer	1	2	Ann. Mike	Ready
7:41:00	Woody Hamel (vocalist) No ann. in between, 6 Numbers	4	1&3	Boom	film ID & feature
7:56:00	Film Id		4	Film Et	Film Id
7:56:11	"Girls In Chains"		5&4	PE Cell	3 reels
9:08:06	Film Id—Sign-off		4	Sign off ET	Film Id

COPIES TO: Prod.—Nelson, Tech.—D. Martin, Shading—Adanti, Trans.—Smith, Audio—Wallgren, Boom—Robinson, Stage Man.—Algeo, Announcer—Rhodes, Projection—Smith & Robinson

XXXIV

Audience Surveys

Surveys made of the television audience to obtain public reaction to programs indicate only what people think of what has been offered to them. Their opinions, however, are sign posts for future program planning and the imaginative, visual-minded producer will study viewers' suggestions, adapting those that add to the pictorial presentation of commercials and shows.

At Schenectady, WRGB has kept a constant finger on the televiewer's pulse since it started telecasting regularly back in 1939. The station has used three survey methods to obtain audience opinion of programs offered. These methods are:

1. Weekly program schedules mailed to set owners, which provide space for reaction ratings.
2. Special surveys made to check spectator reactions to particular commercials and shows.
3. A comprehensive questionnaire sent to every set owner in the Albany-Troy-Schenectady area during the winter of 1943–44.

Item 1—Weekly Program Ratings

A weekly schedule form has been sent to set owners from the very start of G-E telecasting, some five years ago. The form, now a three-fold postal card, provides a "Program Rating" section for viewer notations on presentations seen. This rating card can be torn off and returned, postage paid, to the station.

Program ratings are based on A (excellent), B (good), C (fair), and D (poor) reports. These letters have been given an arbitrary rating value, jointly decided upon by NBC and General Electric back in 1939. The letter ratings converted to numbers are: A (excellent) equals 3, B (good) equals 2, C (fair) equals 1, and D (poor) equals zero. Therefore, an "excellent" or top rating which a program can be given is 3. If an equal number of people rated the show "excellent" or "good" as those who rated it as "fair" or "poor," the rating for the show would be 1.50. A rating of 2.00 is considered better than average.

An average of 25 to 40 viewers, out of the 300 or more set owners in the area, regularly return weekly notated rating cards. Some are very frank in their criticism.

Some Shows Rated "Excellent"

Individual shows of various categories have been rated "excellent." These shows are: *Trial by Jury,* operetta (2.83), *Conquest over Darkness,* documentary (2.83), The Blue Network's *Town Meeting of the Air* forum (2.83), Rome Air Service variety show (2.78), *The Valiant,* one-act play (2.77), *Help Yourself,* full-length drama (2.76), WRGB Phone-In Varieties (2.75), War Map with George Mitchell (2.75), Andrew Ponzi, pocket billiards champion (2.73), Henry Scott, pianist-humorist (2.73), AAU Wrestling Bouts (2.71), *Crime in the Clubhouse,* drama (2.70), Joe Owens' puppets (2.69), *Look* Magazine Photoquiz (2.61), Consuelo Kelly, home economist (2.50).

Five-Year Average of Weekly Ratings

An arithmetical average of all weekly ratings during the period from November 1939 to November, 1944 indicates televiewer reactions to shows within the limits of the rating system. These responses to the 950 live-talent shows and to an equal number of motion pictures televised during these five years give the following program ratings:

a. Televiewers' rating of live-talent shows.

Light opera	2.30

Puppets	2.23
News	2.18
Variety shows and revues	2.12
Full-length drama (three-act plays)	2.12
*Sports	2.04
Opera (two offerings)	2.03
Personalities	2.00
Hobbies	1.92
Vaudeville acts	1.91
Short dramas (one-act plays and sketches)	1.88
Science shows	1.86
Commercials	1.83
Music—soloists (instrument)	1.81
soloists (vocal)	1.77
ensembles	1.62
Games and quizzes	1.77
Educational shows (including science programs)	1.77
Women's programs	1.76
Children's shows	1.72
Dance programs	1.72
Talks and discussions	1.65
Art	1.63
Religion	1.60
Public Service	1.59

a-1. The arithmetical average of all weekly ratings of studio-produced shows since 1939, indicates that the home audience enjoyed most light opera, puppets, news, variety shows, drama and sports in the order mentioned.

*Many of the early sports programs consisted of instruction in game fundamentals rather than telecasts of contests and matches.

b. Televiewers' rating of motion pictures.

Feature films	2.00 (good)
Documentary films	1.81
Travelogue films	1.80
Film shorts	1.74
Film serials	1.73
Unclassified featurettes	1.68

b-1. A study of the five-year average ratings of motion picture telecasts and of studio produced shows indicates that the television audience enjoyed film presentations practically as much as they did live-talent programs.

Weekly Ratings During 1944

The weekly ratings of live-talent shows telecast during the period from November 1943 to November 1944 indicate a shift in audience enjoyment of programs offered. These live-talent categories and their average weekly ratings for the one-year period are:

*Sports	2.39
†Quiz programs	2.35
Light opera	2.29
Variety shows	2.27
Puppet shows	2.25
Full-length drama	2.23
Personalities	2.19
Monologues	2.16
News	2.14

*During this period sports events were emphasized. The WRGB studio was turned into a sports arena for monthly boxing or wrestling matches. Also the NBC-WNBT boxing and wrestling matches televised from Madison Square Garden and from St. Nicholas arena were regularly relayed to the WRGB audience.

†The *Look Photoquiz*, starring Col. Stoopnagle, and several special quizzes of *The Game* program were televised during this period.

Audience Per Receiver

The weekly program returns show that friends and neighbors join set owners to watch television shows. The reports indicate an average of six to seven spectators per receiver, but WRGB claims an average audience of four to five people per set.

Item 2—Surveys of Television Commercials

Several individual surveys have been made in connection with commercial telecasts. The WRGB audience response to commercials tested are detailed in this chapter but the survey results in relation to commercial production techniques are fully discussed in Chapter XXIV, page 121. The first survey of test commercials (Sept. 20, 1943) was made in connection with a series of 6 three-to-five minute skit commercials for Vimms Vitamins and Wildroot Cream Oil (see Chapter XXIV, p. 123). Set owners were requested to indicate their reactions to the commercials on the weekly rating card.

On the basis of 42 returns (cards), the survey showed:

	Liked	*Did Not Like*
No. 1. Vimms (meat shop)	12 (44.4%)	15 (55.6%)
No. 2. Wildroot (puppets)	11 (40.8%)	16 (59.2%)
No. 3. Vimms (two wives)	10 (35.9%)	18 (64.1%)
No. 4. Wildroot (D. McMullen)	10 (38.5%)	16 (61.5%)
No. 5. Vimms (food stuffs)	11 (42.3%)	14 (57.7%)
No. 6. Wildroot (proposal)	15 (60.0%)	10 (40.0%)

The weekly rating reports for Vimms Vitamins and Wildroot Cream Oil commercial skits gave a weighted rating of 1.20 for the group of six test spots.

Audience Comment

Some of the more pertinent comments by the audience concerning these televised commercial skits were:

"Plugs should be shorter, about one-quarter the length of those presented."

"The shorter and snappier, the better. Music helps."

"Just the picture of Vimms and the professional announcements would be enough."

"To be truthful, I bought a bottle of Wildroot, but the commercials for Vimms didn't have the appeal."

"The comedies for Wildroot seemed much more enjoyable than the seriousness for Vimms."

"Elaborate and time consuming sketches are irritating to the looker-in."

"No. 5 was the least bad."

"No. 1 and No. 3 were sensibly put on but Nos. 2, 4, 5 and 6 were skits that would be enjoyed by children. A busy housewife would not give up her time to look at advertising of this type."

"The presentations were anything but subtle. Presented one after the other, they grew boring."

"Excellent for once, but repetition would be awful."

"Commercials were too long. Interest rapidly wanes. Shorter commercial would be much more effective."

Audience Rating of Test Commercials

Audience attention was called to a series of spot commercials telecast during a two month period, during December 1943 and January 1944. The audience reactions to these commercials were compiled from the weekly schedule ratings and they show the following response:

Commercials	*Excellent*	*Good*	*Fair*	*Poor*	*Rating*
No. 1. Before and after skit 3 minutes (Wildroot Cream Oil)	2	4	4	1	1.64
No. 2. Puppet Act 3 minutes (Royal Crown Cola)	1	4	2	1	1.63
No. 3. Home Hints 15 minutes (Popular Science)	1	5	5		1.64
No. 4. Talk and Demonstration 5 minutes (Mazda Lamps)		5	3		1.63

These ratings indicate that viewers thought these commercials were "almost good."

Coincidental "Easy Washer" Survey

When the commercial demonstration for the Easy Washer washing machine was telecast (Nov. 24, 1943), a telephone survey was made immediately following the evening presentation (see Chapter XXIV, page 124). Fifty-one television homes were called.

Questions asked:

a. Did you see the television program, *Your Face Is Your Fortune,* this evening?

b. If "yes": What make of washing machine was demonstrated?

The results of the telephone survey show:

		Number	*Per Cent*
a.	Total calls	51	100.0
	Saw the program	24	47.0
	Did not see the program	19	37.3
	Was not at home	8	15.7
b.	Saw the program	24	100.0
	Correctly identified the sponsor	22	91.7
	Did not identify the sponsor	2	8.3

Even with this small audience sample, the high percentage of people who correctly identified the sponsor indicates the impact of television.

Item 3—Audience Composition and Program Preference

In the winter of 1943–44 a comprehensive questionnaire was sent to television set owners on the WRGB mailing list in the Albany-Troy-Schenectady area in up-state New York.

The objectives of the study were to determine:

1. Size and composition of individual television audiences.
2. Days and time of day preferred for programs.
3. Relative popularity of motion picture and live-talent programs.
4. Types of programs preferred by audiences.

Replies were received from 116 or 58% of the set owners (200) to whom the questionnaire was sent. In addition, 26 set owners were personally interviewed. The high percentage of returns indicates the wide interest in television among set owners. Of the 26 interviews, 16 were with G-E employees. Of the 116 mail questionnaires returned, 67 were from G-E employees, 41 from persons not employed by General Electric and 8 questionnaires were returned unsigned.

The findings of this study have been summarized and major points of interest listed.

Viewing Habits

In answer to Question 1—to learn the size and composition of individual television audiences—the results of the questionnaire survey have been broken down into three parts:

a. "When do you usually listen?"

Viewing habits of the 142 television set owners (26 interviews and 116 questionnaires) indicate that approximately 90% usually tuned in television on Thursday and Friday evenings. The tabulations showed that Monday evening relayed telecasts from New York City were less popular with the WRGB audience. This was due in large measure to the Air Raid Refresher course which WNBT repeated each week during 1943–44. In January 1944, WRGB was telecasting two evenings a week (Thursday and Friday), two afternoons a week (Thursday and Friday) and Monday night relay from NBC, New York.

Here is the breakdown of the audience viewing habits during the winter of 1943–44:

Thursday evening	90%
Friday evening	89%
Monday evening	63%
Friday afternoon	18%
Thursday afternoon	15%

Afternoon Audience

This survey indicates that the afternoon television audience is about ⅕ of the evening audience.

Set owners expressed their opinions about telecasting schedules quite frankly, a few of which are given below:

> "Would like to have, if possible, some programs presented on Sunday as it would make television more enjoyable for all parties concerned, different members of the family having different working hours."

> "Cut out the afternoon programs and put on a Sunday afternoon or evening program instead."

"My youngsters enjoy the programs very much, but can't stay up for evening programs. Sunday afternoon programs (except in summer) would be ideal for both children and adults."

Questionnaires indicated that television set owners preferred a Sunday evening program in place of the afternoon programs. As a result of this study, a Sunday evening schedule was substituted for the Thursday and Friday afternoon programs.

Viewers Per Set

b. In answer to the question: "How many people see the programs in your home?" tabulations show that the average attendance per television set is four to five persons. Some set owners make a practice of regularly inviting in children and adults from the neighborhood or other friends to share the programs. Other set owners say that outsiders rarely see a program in their home. If the attendance of five holds for the 300 to 400 sets in this area and 60% of the sets are tuned in (according to the coincidental survey on page 210), then the total audience during each program is more than 1,000.

Juvenile Audience

c. Children audience.

In about half the homes the television audience is comprised of both children and adults. According to parents, the best time for children to watch telecasts is from 3:30 to 5:30 in the afternoon and from 7 to 9 in the evening. Some parents said:

"Suggest that puppet shows, film serials and all teleshows of special interest to children be shown during the first hour of the evening program. At least one afternoon each week should be for children."

"I would like evening program early so I can see it all with the children and be able to get up next morning to go to work."

"Children should not see the blood curdling mystery serials."

Day and Time Preferences

Question 2. Day and Time of Day Preferred for Programs—was answered in part by Question 1 indicating the listening habits of the set owners based on WRGB's telecasting schedule. The results tabulated here show the periods preferred, regardless of the telecasting schedule.

Almost half the set owners said they did not care for any afternoon programs. For evening programs the order of preference is for shows to be telecast on Friday, Sunday, Thursday, Monday, Wednesday, Tuesday and Saturday.

As previously stated, the WRGB schedule was changed to include a Sunday evening period, in place of two afternoon periods.

Motion Pictures or Live Shows

Getting down to program material, WRGB was interested to find out its audience reaction to the shows being offered. Question 3 asked: "Relative enjoyment of motion picture and live-talent programs?"

WRGB schedules include approximately 50% of motion picture and 50% of live-talent shows. Results of this study indicate that the television audience enjoys both live-talent and films and thinks the program schedule should continue to carry some of each type. The tabulations below show that twice as many viewers enjoy live-talent shows more than motion pictures.

Here is the tabulation to Question 3:

Enjoy live-talent shows more	52.7%
Enjoy motion pictures more	27.5%
Enjoy live-talent and motion pictures equally	19.7%

Live-Talent Show Preferences

Of the live-talent shows, the home viewers prefer variety acts (including variety shows) as a first choice. Then they prefer sport programs, drama and musicals in the order named. Variety acts, including revues, puppets, magicians, dog acts and quizzes, were enjoyed by the audience both as individual acts and as variety shows knit together by a master of ceremonies. A breakdown of live-talent preferences, based on shows offered and the quality of those offerings, indicates the order of viewer preference:

Variety acts (and variety shows)	23.4%
Sports	20.4%
Drama	16.3%
Musicals (operettas)	15.3%
News	8.7%
Educational (including science shows)	8.3%

Dance	6.3%
Miscellaneous	1.3%

Interesting to note: Set owners prefer hour-long and half-hour dramas to shorter plays, because the shorter drama "usually doesn't have sufficient plot to make it interesting." Here is the preference breakdown:

Length of Play	*Number of Mentions*	
Full hour or longer	60	(42.2%)
Half-hour	58	(40.9%)
15 minutes	17	(12.0%)
No preference	7	(4.9%)
Total	142	

Musical Program Preferences

According to the questionnaire, the WRGB audience enjoys classical music in preference to popular by a 4.4% margin, as indicated in this tabulation:

Type of Musical Program		*Per Cent of Weighted Choices*
Classical		38.9
Concert	15.8	
Symphony	13.7	
Opera	9.4	
Popular		34.5
Semi-Classical		26.6
		100.0

Programs Liked Least

Motion pictures head the list of particular programs "liked least." This would seem to conflict with the finding that motion pictures are the first choice of a quarter of the set owners. However, it is not movies in general which are objected to but only the extremely old, silent films or inferior features of a more recent date. Other shows "liked least" in the order of mentions include: Air Raid Warden Refresher Course (repeated weekly), Operas, Crossword Puzzles, *The Martins* (a studio serial), Bridge Instruction, Interviews, Musical Paintings and Soloists.

A study of these "liked least" studio productions revealed that in many cases the experimental production job left much to be desired, both in visual presentation and in formula, rather than the type of program itself.

Commercial Program Reactions

Although no separate category was included on the questionnaire for commercial telecasts, many of the set owners commented on commercials. WRGB, in cooperation with several New York advertising agencies, had been testing special video sales copy (see Item 2 of this chapter and also Chapter XXIV) during the fall of 1943. That these commercials made an impression is indicated by comments set owners made in the "Comment and Suggestion" column of the questionnaire:

> "Don't use long advertising. No matter how well done, it is boring. Botany tie (NBC's WNBT relayed over WRGB) ads are good."
>
> "Goodrich program (demonstration of synthetic rubber process and use of fabrics) was good."
>
> "I hope advertisers will do better by television than they have done by radio. If there must be sales talk, make it short and snappy. If it can be funny and entertaining, it can be a little longer but don't repeat. If a sales plug is good it will stick; if it is bad, repeating it is worse."
>
> "Hamilton Watch ads (station breaks) have been good when not too long. Wildroot ads have been reasonably good."
>
> "The commercials seem novel so I like them."

Audience Random Comments

Many of the set owner comments warrant study by the farsighted producer for they indicate that television is being warmly received and that set owners have a keen interest in program developments. Here are some excerpts taken at random from the questionnaires:

> "We think you are doing a swell job and hope you continue. Invite friends and neighbors in and their reactions to television presentations is very keen. All agree that they desire a receiver after the war."
>
> "We consider residents of this area more than lucky to have such active television management. Scope of entertainment on whole is broad enough to please general public interest."
>
> "We plan our viewing nights just as we plan our night out!"

"Reception and programs are better than I expected."

"I believe that popular large scale acceptance of television must stand or fall on its entertainment value and its ability to transmit spot pick-ups of items which do not now reach the public except by stills or newsreels, but its major field is entertainment. There the pressing need is for the well staged shows of high entertainment value which the movie industry has carried to a high degree of perfection in two-dimensional presentation."

"We often have company to see the television programs and we frequently have to apologize for the program material shown. So far, the boxing and wrestling and certain movies have been the best. Musical programs cannot be fully appreciated because of unsuitability or inability of present receivers to reproduce FM."

"Audience including young and old like action, fast moving scenes in order to hold their attention. I have noticed definitely that scenes such as playing a piano, etc., sketching a picture or talking on any subject were boresome and people walked away."

"More close-ups needed. We never know what people look like."

"Saw the Rodeo the other night (relayed from New York) and it was good."

Item 2—Sets-in-Use Survey

A coincidental telephone survey was made during October 1944 on two evenings (a Friday and a Sunday) when typical shows were being telecast. Five girls completed 133 and 137 calls during each of the two-hour on-the-air periods.

The survey showed:

a. Sets tuned in.

a-1. About 60% of the television sets in the WRGB area are tuned in regularly.

a-2. Set owners, however, answered that they watched programs approximately 90% of the time WRGB is on the air.

b. Young people audience.

b-1. 26% of the audience is under 18 years of age.

b-2. About half of the set owners have children in the family.

c. Audience per receiver.

c-1. An average of four to five persons per receiver watch WRGB television shows.

Surveys Summarized

A comparison of the findings of the three types of audience surveys made at WRGB, presents some interesting data:

1. Audience program viewing habits.

a. Set owners plan their television viewing.

b. Set owners prefer shows on: Friday, Sunday, Thursday, Monday, Wednesday, Tuesday and Saturday evenings in the order named.

c. Four-fifths of the set owners did not care for any afternoon shows, except Sundays.

d. Afternoon telecasts, particularly Sunday, were requested for children (about 50%).

2. Television audience per set.

a. Four to five persons per set is the average WRGB audience.

b. Set owners invite friends and neighbors in to see shows.

c. Children invite their friends in to watch programs.

3. Sets tuned in.

a. It is estimated that 60% of the television sets are tuned in for the average show.

b. The afternoon audience is about ⅕ of the evening audience.

4. Live-talent shows vs. motion picture telecasts.

a. Weekly ratings indicate that the audience enjoys motion pictures practically as much as they do live shows.

b. Prefers live-talent shows vs. motion pictures. The questionnaire survey showed:

Enjoy live-talent shows more 52.7%
Enjoy motion pictures more 27.5%

5. Types of live-talent shows preferred.

a. The types of live-talent shows in their order

of preference are shown in the following tables. The list under "Weekly Rating" indicates a preference based on an "average rating" for all shows in that category. The list under "Questionnaire" indicates first choice or preferred type of show of 142 set owners:

Questionnaire
(Winter, 1943–44)

Variety acts and Variety shows (incl. puppets)	23.4%
Sport	20.4%
Drama (lasting a full hour or a half-hour)	16.3%
Musicals (operettas)	15.3%
News	8.7%
Educational programs (including science shows)	8.3%
Dance programs	6.3%
Miscellaneous	1.3%

Weekly Rating
(based on 1943–44 average)

Sports	2.39
Quiz programs	2.35
Light opera	2.29
Variety shows	2.27
Puppet shows	2.25
Full-length drama	2.23
Personalities	2.19
Monologues	2.16
News	2.14

Weekly Rating
(based on 5-year average)

Light opera	2.30
Puppets	2.23
News	2.18
Variety shows and revues	2.12
Full-length drama (three-act plays)	2.12
Sport	2.04
Personalities	2.00
Vaudeville acts (individual acts)	1.91
Short dramas (plays and sketches)	1.88
Commercials	1.88
Music:	
Soloist (instrument)	1.81
Soloist (vocal)	1.77
Ensemble	1.62
Educational programs (including Science)	1.77
Games and quizzes	1.77
Women's programs	1.76
Dance programs	1.72
Talks and discussions	1.65

b. It is interesting to note that sports programs which received the highest weekly rating during 1943–44 was first choice (preferred type of show) of 20.4% of the set owners who filled out the questionnaire. News, though, which is always popular (getting a weekly rating of "better than good") is preferred over all other types of shows by only 8.7% of the 142 set owners.

c. Variety shows are preferred by 23.4% of the WRGB audience according to the questionnaire. This type of entertainment received a 2.27 rating for 1943–44 and a 2.12 rating based on a 5-year average.

d. In the questionnaire survey, set owners indicated that they preferred full-length dramas, lasting an hour or more or at least a half-hour, to short dramas because "a short play usually does not have sufficient plot to make it interesting." This audience choice is borne out by the weekly ratings: For full-length dramas, based on the 1943–44 average rating of 2.23, and on the 5-year average of 2.12.

e. Light opera has been well received by the WRGB audience as indicated by the five-year top rating of 2.30. Musicals, including light opera, were first choice of 15.3% of the WRGB set owners.

6. Impact of commercials.

a. Special television tests for Vimms Vitamins and Wildroot Cream Oil (3- to 5-minute skits) indicate the following audience reaction:

a-1. Skits too long. Viewer opinion: "The shorter and snappier, the better."

a-2. Comedy proposal skit for Wildroot was liked best.

a-3. Puppets enacting skits written for live actors (repeated with puppets) were not as effective as live actors. Puppets did not fit the situation.

a-4. The serious note of Vimms skits liked by some and disliked by others.

a-5. The general opinion on the commercial formulas was "presentations anything but subtle."

a-6. Audience opinion on repeating the commercials was "excellent for once but repetition would be awful."

b. A special television test was made with four commercials, telecast over a period of a month: Wildroot Cream Oil, Royal Crown Cola, *Popular Science* Magazine and Mazda Lamps.

b-1. The two 3-minute skits, the 5-minute talk and demonstration, and the 15-minute home hints program received individually a rating of 1.64, indicating that televiewers thought the commercials were "almost good."

b-2. The commercials were spotted between regular shows.

c. The telephone survey for Easy Washer washing machine was made following the telecast, of 51 set owner homes.

c-1. 91.7% of the people who saw the commercial (24) identified the sponsor.

c-2. This high percentage (even of a small sample audience) indicates the impact of "seeing" merchandise demonstrated.

d. The Questionnaire Survey also indicates the impact of "seeing" television commercials.

d-1. Although no category was provided for commercials on the questionnaire, set owners wrote in their opinions about television commercials. They mentioned by name: Goodrich, Hamilton Watch, Botany Tie (NBC), and Wildroot Cream Oil.

d-2. The general opinion was that these commercials were good, when not too long. Short, snappy television commercials were preferred.

Value of Surveys

While the weekly rating (postal card) type of continuing survey gives the most accurate up-to-the-minute information, results at WRGB indicate that by this method it is difficult to obtain a sufficiently large sample to give more than an indication of what viewers desire. Therefore, it is essential that weekly ratings be supplemented by coincidental telephone surveys and by questionnaire type of audience measurement at regular intervals. Both of the latter give a larger sample and information not revealed by regular weekly reports. However, since postal card surveys are the least expensive they will be the first medium to be used by television producers, practically every station now in operation in the nation using them.

XXXV

Know Your Television Receiving Set

ALL THE creative efforts of television producers and all the development work of electronic engineers are channeled to the home receiving set. How well their jobs are done is seen in the entertainment and picture quality on the receiver screen and in home spectators' enjoyment of the sound-picture presentation.

Television Projection Receivers

The public is demanding a larger screen with pictures about the size of those made by a home movie projector. Large size television pictures of improved definition and contrast are already laboratory realities. The television projection receiver, using a 5-inch cathode ray (or picture) tube, is designed to project pictures as large as 18 by 24 inches on a wall screen or on a retractable screen attached to a receiver by means of an optical system. Projection receivers, planned as combination sets for radio and television, will be put into production as soon as designs are standardized and materials are available. Some combination sets may include short wave and others may be combination receivers and phonograph record players.

Popular Priced Receivers

The popular priced postwar receiver, planned to sell for around $200, will probably give an image approximately 8 by 10 inches or slightly larger. This type of receiver, which may also be equipped for AM and FM radio, uses a 12-inch picture tube. These receivers will be of two types: direct view (seeing the image directly on the picture tube face), and indirect view (seeing the image reflected by a mirror). In these types of receivers, the size of the picture tube determines the dimensions of the image.

Channel-Selecting Switches

Television receivers are equipped with several channel-selecting push buttons or a band changing switches so that the set owner can tune in the stations serving his area. Each television station is assigned a specific channel band. WRGB, for instance, operates in Channel No. 3, 66–72 megacycles with a picture power output of 40,000 watts. The picture signal and the sound signal, telecast on the wavelength channel assigned to a television station, are received at the home on the same antenna (which is discussed later in this chapter) and are separated inside the receiver.

Picture and Sound Signals

The television receiver has two channels: the audio channel and the video channel, each with its own amplifier stages. The sound signal, which is frequency modulated (FM), passes through the audio channel where it is amplified and detected and then reproduced by the loud speaker. Volume and tone controls, similar to those on a standard broadcast radio set, allow the loudness and quality of the sound to be varied.

The picture signal is divided in the video channel of the receiver into picture information signals and synchronizing pulses, the picture information going to create the image on the picture tube while the synchronizing pulses time the electrical scanning circuits in the receiver—keeping them in step with similar scanning circuits in the television cameras at the studio.

Tuning Controls

There are two types of tuning controls: 1) those that are preset, and 2) those that are adjusted each time a receiver is turned on. Not all receiving sets are designed or will be designed with the same num-

▲ THIS model of a television projection receiver shows an 18 by 24 inch retractable screen designed for ease of viewing programs by a large group. Other projection receivers are being designed to throw the picture on a wall screen.

THE direct view television receiver, illustrated below, gives a picture approximately 8 by 10 inches. This type model will be popularly priced to fit the public's pocketbook when manufacturing of receivers is resumed. ▼

ber of preset controls but all preset controls should be adjusted by a service man using a transmitted test pattern as a reference, and not against a moving television picture. The preset controls are normally adjusted when the receiver is installed and need not be readjusted by the set owner.

The Test Pattern

The test pattern is a design of verticle and horizontal lines and circles of different sizes which separate gray scale values (see picture on next page). The test pattern is regularly telecast for a half-hour preceding station sign-on of regularly scheduled programs to allow time for set owners to tune in and adjust receivers. The test pattern is also frequently telecast during certain daytime hours to allow service men to adjust preset controls. Further, the test pattern design generally forms a background for the station call letters and this station identification slide is flashed on the air at stated intervals during telecasting periods.

Preset Tuning Controls

In most prewar General Electric television receivers there are nine preset controls. Eight controls govern the centering, size, speed and linearity of the picture, both horizontally and vertically. The ninth control governs the horizontal damping. The functions of these controls are:

Centering controls—just what the word indicates, to center the picture on the tube face both horizontally and vertically.

Size controls—to increase and decrease the picture size, both horizontally and vertically as required.

Speed controls—sometimes called hold controls, to hold the receiver in synchronization with the cameras both horizontally and vertically.

a. When a picture starts to roll over and over like a barrel in a vertical direction, it indicates that the vertical speed control has to be reset.

b. When more than one picture is seen horizontally or the picture tears horizontally, it indicates that the horizontal speed control has to be reset.

Linearity controls—to correct distortion in the picture generally noticed in the form of a bulge or oval shape on one side of the picture tube face.

a. If the oval disturbance is bulged in a vertical direction, it is corrected by adjusting the vertical linearity control.

b. If the oval is bulged in a horizontal direction, it is corrected by adjusting the horizontal linearity control.

Damping control—the ninth control, aids in removing the bulge or oval distortion which may appear on the left side of the picture.

Adjustable Tuning Controls

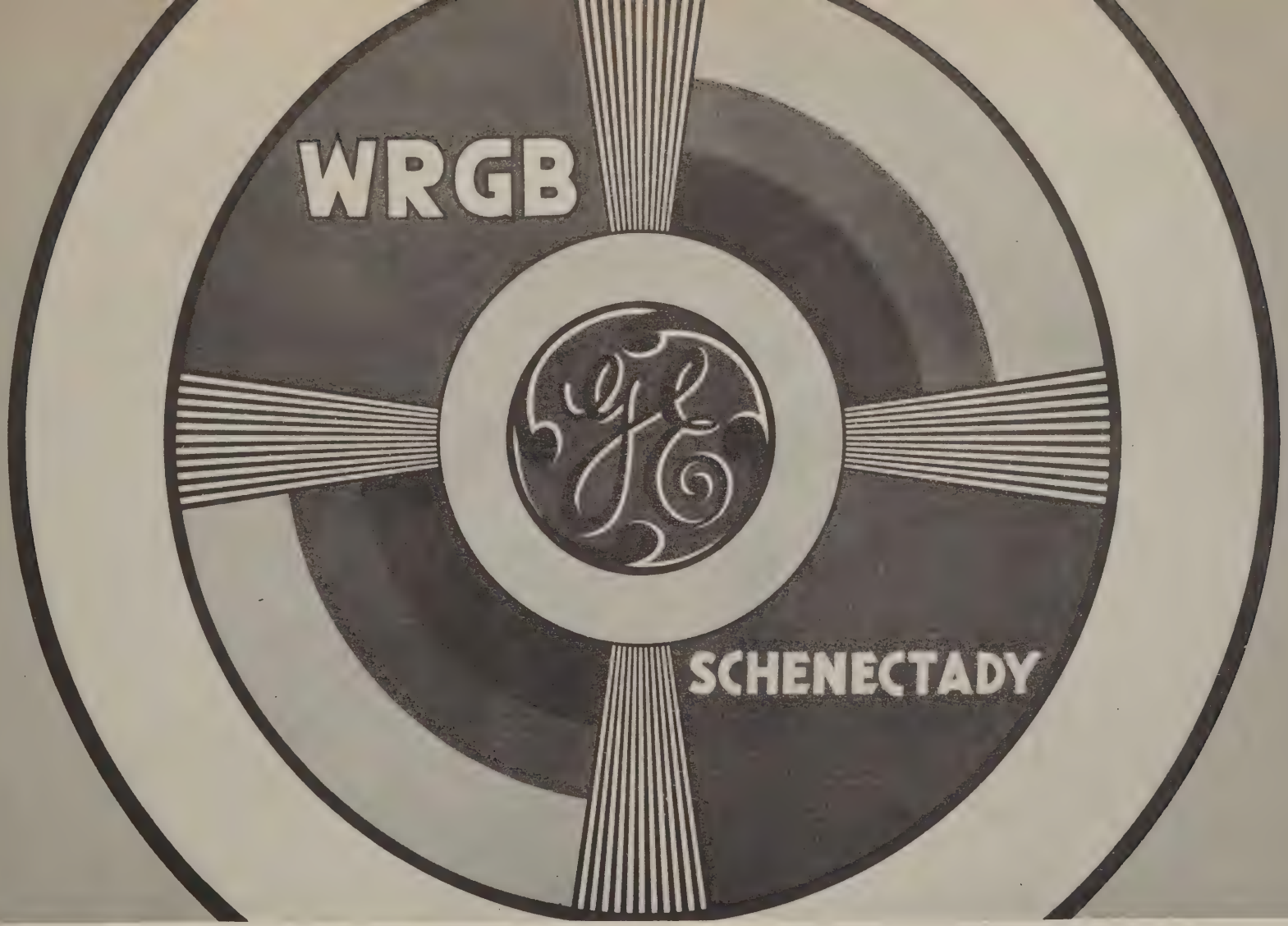
Tuning controls that are adjusted each time the television receiver is turned on, should be regulated with the test pattern as a reference. This may not always be feasible when television goes on a more extended schedule but at present set owners should tune in their receivers during the telecasting of the test pattern.

There are six adjustable tuning controls in some prewar General Electric receivers. Not all sets have six adjustable controls, some have five, others have four. Newer designed receivers may even have fewer adjustable controls. However, the present six controls to be adjusted when turning on a television receiver are: 1) tuning control, which affects sound and picture; 2) volume control, and 3) tone control which affect the sound only; 4) contrast control; 5) brightness control, and 6) focus control which affect picture quality only.

Tuning a Television Receiver

To turn on a television receiver, the channel-selecting push button is depressed, thereby selecting the desired television station signal. Then, fine tuning of picture and sound is accomplished by means of the adjustable tuning controls, first tuning for sound. The control marked "tuning" brings in both sound and picture (test pattern). Tune for sound just as you would in a regular radio receiver. Then adjust the loudness by the volume control and the quality by the tone control.

When the sound is satisfactory, turn the contrast control down as far as it will go—no picture will be visible. Then adjust the brightness or background control to blank out the retrace lines (a zigzag pattern of faint horizontal lines), giving a blank background on which to build a picture. Then turn the



The WRGB Test Pattern

THE design of circles separates the five-step television gray scale, from white to black, which is used as a reference in tuning television receivers.

contrast control up, making the picture being telecast visible, and adjust the control for the best gray scale quality. The gray scale circles in the test pattern should show clear demarcations between the gray scale values, black should appear black and white should appear white.

The focus control should then be adjusted for vertical and horizontal resolution. With proper adjustment—and under ideal conditions—the horizontal and vertical wedge-shaped lines in the test pattern should be separate and distinct from the outer circle to the inner circle.

The television receiver is now properly adjusted for picture and sound reception.

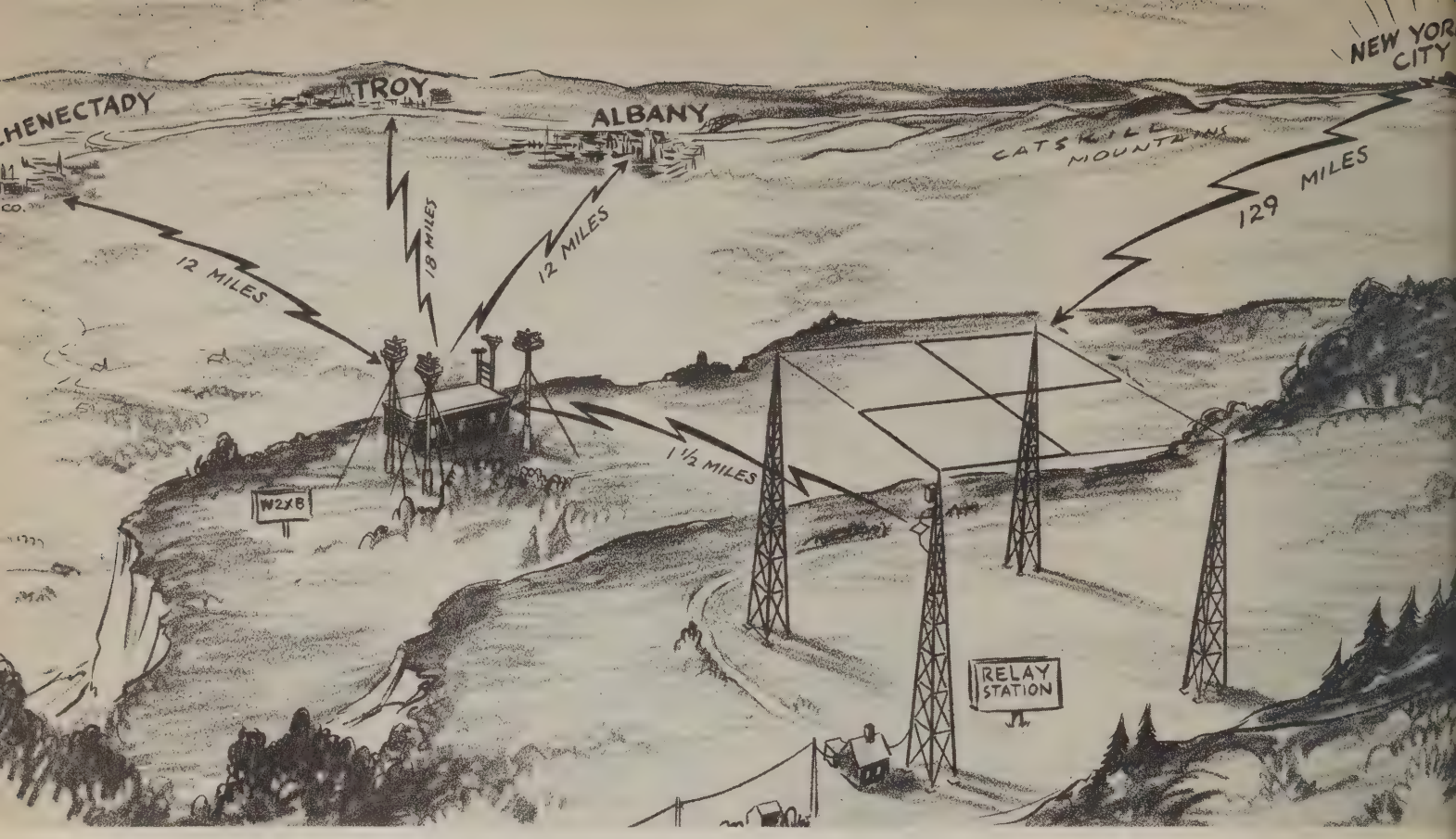
Home Antenna System

For best television reception, the television receiver should have a good antenna system. Complete antenna kits will probably be available when the manufacture of receivers is resumed. The antenna is usually erected on the roof of the apartment house or dwelling. The simplest form of antenna is the dipole, two metal rods attached horizontally to a vertical pole. The dipole is a half-wave length long, or one-quarter wave each side of the center. Additional elements, a reflector and a director, may be added to increase the picture signal and to remove interference. The director is placed in front of the antenna proper and the reflector in back of the antenna. Such a three-element antenna is highly directive and helps to eliminate reflections and cut down ghost images. The length of the dipole varies. It is cut for the frequency of the station.

The dipole should be installed so that it intercepts at right angles the picture and sound signals from the transmitter. When more than one station is serving an area, the direction of the antenna will have to be adjusted for best reception of station signals. In some instances, two or more dipole antennas may be required if signals from several stations are to be received properly.

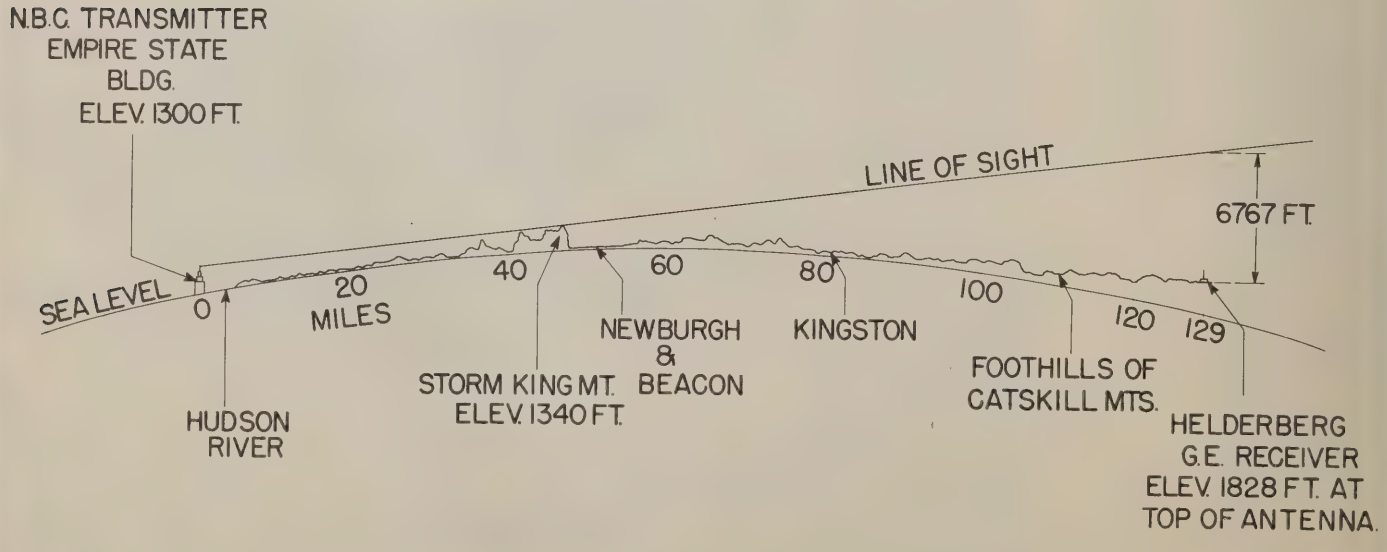
Importance of Picture Quality

Too much emphasis cannot be placed upon the importance of picture quality in the home receiver. All the work and thought put into a television show amount to naught unless the home audience can see and enjoy that show on home receivers. To insure proper tuning of receivers, television stations should assume in part the responsibility of instructing set owners in the operation of receivers. This may be done by special telecasts demonstrating the various tuning steps and this service will certainly pay dividends in satisfied set owners.



▲ THE above sketch shows America's first television relay station, inaugurated on January 12, 1940, linking New York City with the Albany-Troy-Schenectady district through General Electric's W2XB (now WRGB).

THE sketch below shows a profile of the television space circuit between New York City, 129 air-miles away, and the G-E pioneer relay station (receiver) located in the Helderberg Mountains near Schenectady, N.Y. ▼



XXXVI

Television Networks

THE DEVELOPMENT and growth of television depend upon its ability to reach every city, town and hamlet in the United States so that people in Atlanta, Ga., Augusta, Maine, and Albuquerque, N. Mex., can watch the same show that is being viewed by television set owners in Albany, New York.

Radio did not start to grow into a national entertainment medium until radio stations were linked together into networks to spread program costs. Just so television, with a greater basic show cost, must have its networks to spread this cost.

There is much discussion at present about how television stations can be linked together both economically and practicably. The service area of a television station is limited to the visible horizon, usually within 30 to 60 miles. This is because of the characteristic of the high frequency carrier waves assigned to television. They travel in a straight line like light. Television, in order to develop into a national network, must solve the problem of "bending" these high frequency waves to follow the curvature of the earth. One answer is by coaxial cable and the other is by a series of relay stations. Both methods of connecting television stations into networks have been used.

G.E.'s Pioneer Relay Station

General Electric's WRGB was a trail blazer in the pioneer network that linked NBC's WNBT with the Schenectady station by means of a relay station high in the Helderberg Hills, 1½ miles (airline distance) from the main WRGB transmitter. One of the first test relay pickups was the television coverage by NBC of the King and Queen of England touring the New York World's Fair in the spring of 1939.

America's first television relay, linking New York and Schenectady, was inaugurated on January 12, 1940. Officially the General Electric relay station began operation on February 1, 1940, when members of the Federal Communications Commission witnessed a telecast from NBC received by the G-E relay station and re-telecast over W2XB (now WRGB) to the Albany-Troy-Schenectady area. Since then the G-E relay station has been in constant operation.

The G-E relay station is located 129 airline miles from New York City but is not in direct line of sight with the WNBT transmitter atop the Empire State Building. It is 6,767 feet below the horizon as seen from the top of the Empire State Building (see sketch on opposite page). The relay station stands 1,700 feet above sea level with four 128-foot towers supporting a single-section rhombic antenna. The main WRGB transmitter is at an altitude of 1,520 feet with 60-foot antennas and is in direct line of sight with the relay station. This is a one-way relay: from New York to Schenectady. Circuit operations are described in R. L. Smith's technical details, *Three Years of Television Relaying.**

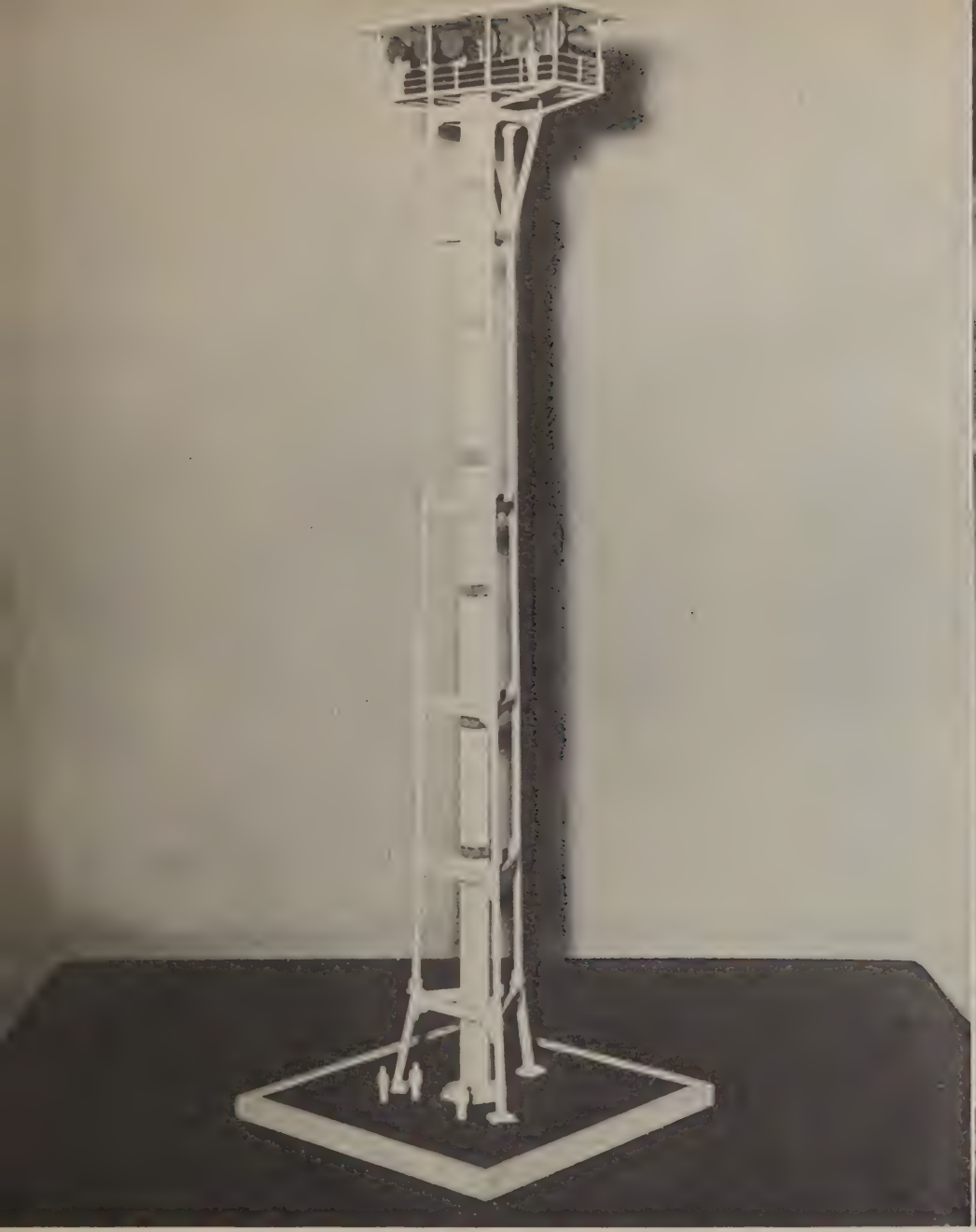
Philco's Relay Station

In 1942, a third station, WPTZ, Philadelphia, was tied in by radio relay equipment with NBC's WNBT and thus with G-E's WRGB. Philco replaced this experimental relay equipment on May 25, 1944 by a two-way relay station located at Mount Rose, near Princeton, N.J., which serves to connect Philadelphia with New York.

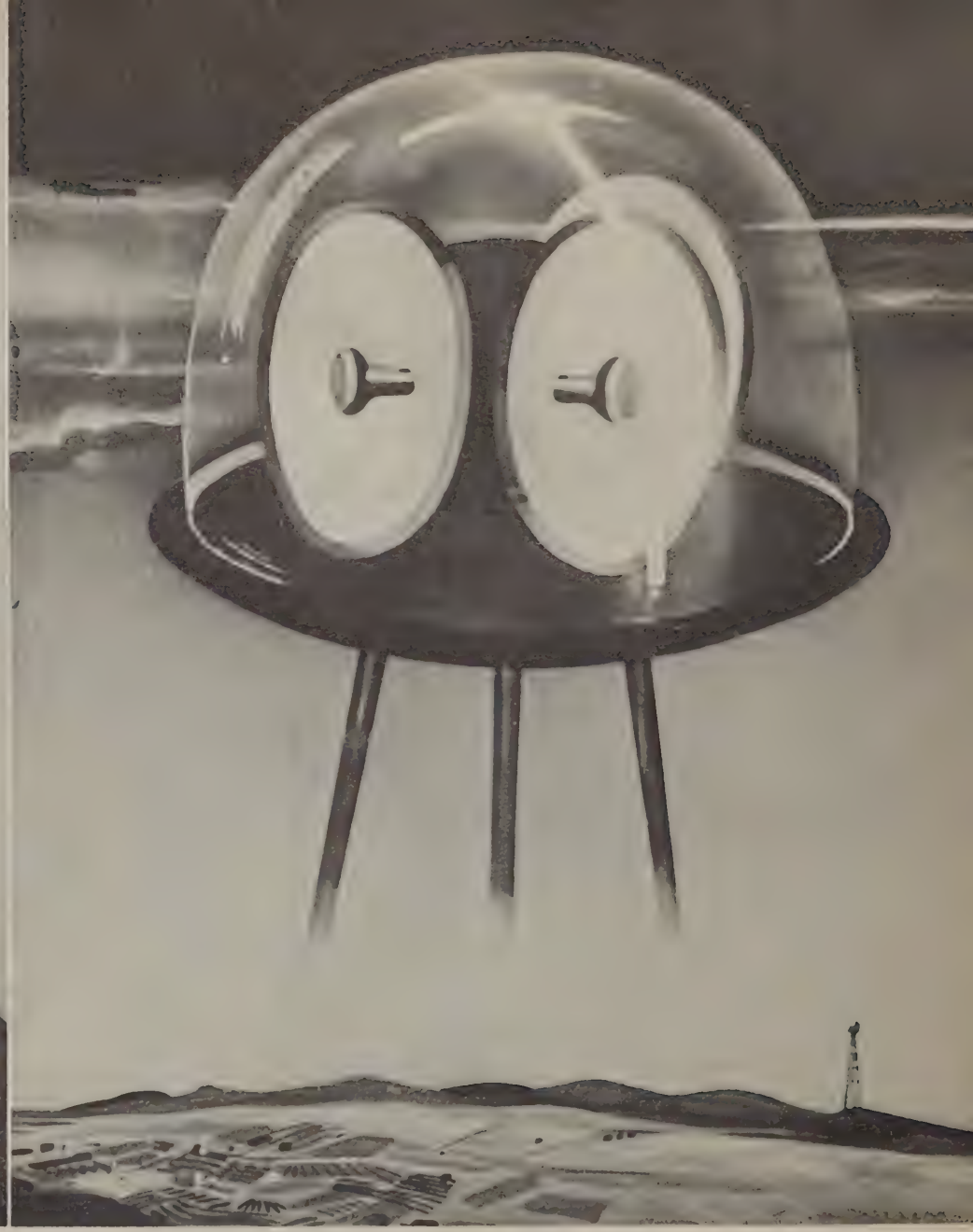
Coaxial Cable

A coaxial cable, linking Philadelphia with New York, was used by NBC to telecast the Republican convention of 1940 held in Philadelphia. The NBC-WNBT signal was received by G-E's relay station

*Published in *Electronics Magazine*, Sept. 1943.



MODEL of the automatic relay tower visualized by engineers of General Electric and the International Business Machine Corp., to receive and relay such services as radiotype, automatic typewriter messages, facsimile and FM radio and television programs.



ENGINEER'S conception of a future two-way television relay station: Receiving and transmitting equipment is housed in a box mounted within a dome atop a simple functional tower. Such relay stations are to operate unattended, being serviced at regular intervals.

and re-telecast over WRGB. Coaxial cable is a metal tube about five-eighths of an inch in diameter with a single copper conductor running through the center, separated by an insulating medium. It is capable of handling several hundred simultaneous telephone conversations and the full range of audible sounds, and will carry picture signals.

Plans for I.B.M-G.E. Relay Network

Future television networks may carry programs from station to station by a combination of both coaxial cable and ultra-high frequency radio wave (relay stations). General Electric is planning to install an experimental two-way television relay network between New York and Schenectady as soon as manpower and materials are available. It is expected that this system will involve four ultra-high frequency relay stations: one in New York City, two along the Hudson River Valley, and one at WRGB's Helderberg transmitter. This is the New York–Schenectady link in the International Business Machine Corporation and General Electric set-up of relay stations. (See picture of relay tower on opposite page.)

The International Business Machine Corporation and General Electric have been granted permission by the FCC to build a chain of relay stations connecting Washington, D.C., Baltimore, New York and Schenectady. The relay stations are to be located about 30 miles apart and are to function in the ultra-high frequencies, in the 2,000 to 2,300 megacycle band. The relay link, designed for simultaneous two-way transmission of several television programs and other services, will serve to connect television stations along the Atlantic seaboard into networks and to connect industrial business machines.

Disk-Seal Electronic Tube

Ultra-high frequency relaying of television programs is made possible by a radically new vacuum tube developed by engineers of the Electronics laboratories of General Electric for the Army and the Navy. It is a revolutionary disk-seal electronic tube which makes possible a large new family of ultra-high frequency electronic tubes, circuits and apparatus which now operate in parts of the spectrum impractical of use before the war. Hitherto, as engineers progressed up the scale of the radio spectrum to the higher frequencies, it became more difficult to produce electronic tubes and apparatus having adequate power to perform the desired service. The new disk-seal electronic tube will permit production of efficient FM radio and television relay systems.

Future Relay Networks

James D. McLean, Commercial Engineer of the Electronics Department, General Electric Company, in speaking of future television networks, explains: "Although future television networks may combine both radio relay equipment and coaxial cable, we believe that transmitting the programs from point to point by ultra-high frequency radio beams has certain great advantages.

"While the General Electric Company does not propose to operate extensive television network facilities, we can foresee a network originating in New York and extending west to Schenectady, Syracuse, Rochester, Buffalo, Cleveland, Toledo, Chicago, and Detroit, and another network extending east to Hartford, Providence, Worcester and Boston. A third network would extend from New York to Philadelphia, Baltimore, Washington and Richmond, and south along the Atlantic Coast and west from Philadelphia to Harrisburg, Pittsburgh, and Cleveland. (See map on next page.)

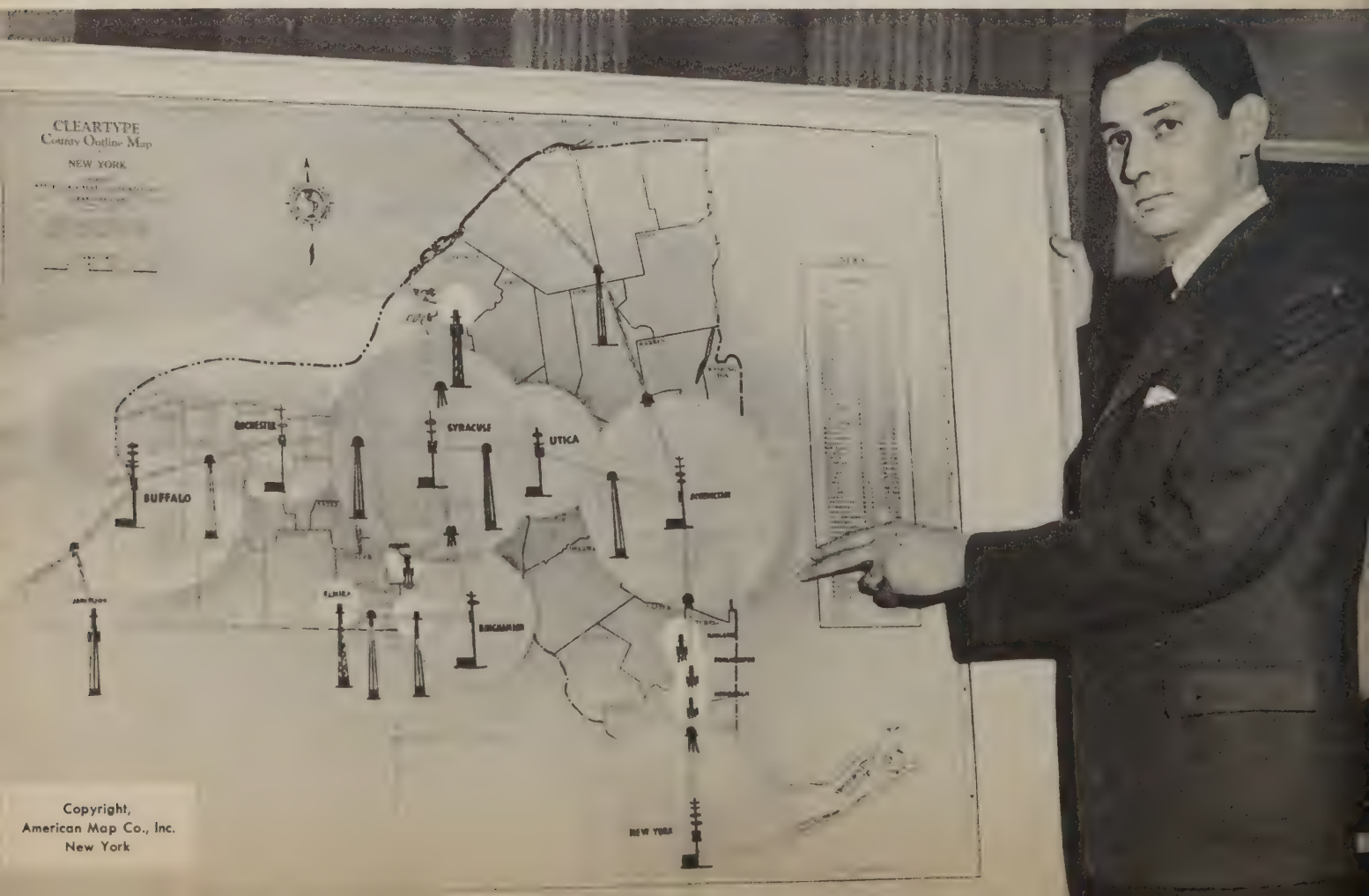
"The establishment of relay facilities between these points and other large cities will allow wider distribution of television shows, increased circulation and larger audiences needed to reduce the cost-per-listener of television presentations.

Future Relay Stations

"Our conception of a relay station is a simple functional lattice tower with a plastic dome on top of it enclosing the relay equipment. The transmitting and receiving equipment will be housed in a box mounted within the dome. The antennas are large parabolic reflectors which concentrate the microwave radio energy into beams. (See picture on opposite page.) The relay station operates unattended and is serviced at regular intervals. The equipment is reversible by remote control so that pictures and sound may be transmitted in either direction. These relay units will be spaced within line-of-sight of one another across the country. The distances between relay stations will vary, depending upon the height of the towers and the intervening terrain. Between

▲ THE General Electric Company foresees networks of master television stations extending from New York City along the Atlantic Coast and inland to Chicago, thus allowing wider distribution of complex shows originating at any studio. Eventually, networks will link all parts of the country.

JAMES D. McLEAN points out that satellite television stations, programmed from a network, can economically bring television to local communities outside of master station areas. A satellite station at Utica, N.Y., for instance, could be serviced from a Syracuse master station. ▼



mountain tops they might be 60 to 100 miles apart while on flat ground the spacing may be only 20 to 30 miles.

"The master television broadcasting stations and the radio relay facilities, foreseen by General Electric, will build the framework of a television network connecting the larger cities. Similar networks will also be established on the Pacific coast and as television grows as an industry, the western and eastern networks will undoubtedly be connected, thus providing coast-to-coast television.

Satellite Television Stations

"Television program service can be brought to smaller cities," McLean believes, "by satellite television stations. A satellite station is one which is programmed from a network and has no expensive local studio facilities. It can be built for only a fraction of the cost of a master television broadcasting station.

"For purposes of illustration (see map on opposite page), it has been assumed that master television stations are located in New York City, Schenectady, Syracuse, Rochester and Buffalo covering the larger cities of New York State with a relay network connecting them. The relay network operates in either direction so that programs originating at any one of the master stations may be telecast simultaneously by all other stations. Utica (population, 258,000), for instance, is just out of range of the Syracuse and the Schenectady master stations. The map shows Utica being served by a satellite television station programmed from the network. Other smaller cities can be similarly served by satellite stations.

"A satellite station," according to McLean, "will consist of a simple building and lattice tower with two antennas mounted on top. One is a parabolic reflector which picks up the picture and sound signals from the nearest television relay point; the other is the broadcast antenna which transmits picture and sound signals to the surrounding area. Within the station is a small transmitter operating at the high radio frequencies, with sufficient power to cover a small area around the station.

"The operator of the local satellite station can, with a 16mm silent motion picture camera take pictures of local events—parades, baseball games, fires, etc.—and an hour later televise them for his local audience. He can also take motion pictures of products local merchants have for sale. Sound for the pictures can be furnished by live announcer or recordings.

"The local operator may wish to add a portable pick-up unit to his facilities for on-the-spot programs. This mobile unit includes a small truck with portable sight and sound transmitters and a portable camera unit. The camera could be installed on the roof of the truck along with a parabolic antenna reflector which would beam the picture and sound back to the main transmitter.

National Television Networks

"General Electric anticipates that within five years after the war there will be at least 150 active master television stations in the country with 67,000,000 people in their service areas, over half the population of the United States."

That is the 1945 picture of television networks of the future, an outgrowth of the present three-station relay system between New York, Philadelphia, and Schenectady.

XXXVII

Glossary of Television Terms

THE use of television terms as defined in this glossary is based upon their daily application at WRGB, the General Electric station in Schenectady, N.Y. Many of the expressions have been adapted from radio, the stage and the film industry. Some words, however, are unique to the visual broadcasting medium.

A

AM (amplitude modulation)—In AM transmission the carrier wave frequency remains constant while the power (amplitude) is constantly varied or modulated at the rate of the audio frequency. The frequency bands assigned to standard band AM broadcasting by the Federal Communications Commission are from 550 kilocycles to 1,600 kilocycles.

Amplifiers—Electrical circuits through which a sound or picture signal passes and is strengthened.

Angle shot—A camera technique in which a subject or scene is shot from an unusual or extreme angle, such as an abnormal side view, or looking down from a high boom level, or looking up from a low boom level. The angle shot is usually used for dramatic effect.

Antenna—A structure for sending or receiving radio waves.

Audio (I hear)—A synonym for the word "sound," or the electrical impulses which carry aural intelligence.

B

Background—The rear space of the stage area, or the drapes or painted scenery forming the walls of a stage set.

Bandwidth—The number of cycles per second in the band of frequency required to transmit the visual or aural signal. Present television is transmitted in channels six megacycles wide, which accommodate both picture and sound signals.

Black level—Eliminating all traces of a picture being televised: i.e., switching or fading all cameras off the on-the-air line. A producer may want to go to black level for dramatic effect. Black level also means the electrical picture signal level which produces a black picture.

Blanking—The process of cutting off the beam of electrons in a picture or camera tube during the time it is not forming a picture. This occurs when the beam returns from the far right to the left to scan a new line or from the bottom to the top of the picture.

Blank out—A term used in tuning a receiver when the picture on the cathode ray tube is "erased" or blanked out while adjusting the receiver for picture reception.

Bloom—The condition of bright illumination in a picture or a portion of a picture on the picture tube, obscuring picture details. This occurs when an area of white bounces light; for instance, the white bosom front worn by a man with his black tuxedo may cause the picture to bloom and obscure the details of his face.

Boom down—The lowered position of the camera dolly boom and consequently of the camera. The dolly boom is lowered, thereby lowering the camera, for a head-on shot or a tilted-up shot.

Boom microphone—A microphone suspended from a boom which can be lowered or raised, extended or retracted by an operator to keep

the microphone over the performers as they move about the stage set.

Boom up—The camera dolly boom is raised, thereby elevating the position of the camera for a high head-on shot or a tilted-down shot.

Bracing flats—Anchoring scenery flats by means of stage braces and weighing down the braces with sand bags. Stage screws are not used because they would mar the studio floor.

Break camera—An order or direction to move the camera from one shooting position to the next as soon as it goes off the air. Specific directions to break camera are given when rapid moves are necessary.

Brightness—The degree of illumination of a picture on the receiver or picture tube.

Brightness control—A control on the receiver for regulating the over-all brightness of the picture.

Busy background—A background of a picture or stage set with too much detail or with the same general tonality as the action played in front of it.

Busy picture—A picture with too many shapes or pictorial elements or too much detail.

C

Camera reporting—Televising a program that has *not* been adapted, planned and directed for television; for example, doing little more than putting a stage directed and rehearsed play before the television cameras.

Camera shots—Various views or pictures obtained by moving cameras about during a performance. See Chapter XXVI for full details. The major camera shots and their abbreviations or script notations are:

Close-up—CU
Medium close-up—MCU or Med. CU
Tight or big close-up—TCU or BCU
(BCU, big close-up, is used by motion pictures. The film industry does not use TCU.)
Long shot—LS
Medium shot—MS or Med. S
Pan—PAN RIGHT (or PAN LEFT)
Tilt—TILT UP (or TILT DOWN)
Two-shot (or 2-shot)—TWO SHOT or 2-S
Boom up (and tilt down)—BU-TD
Boom down (and tilt up)—BD-TU
Follow shot—FOLLOW (performer or action)

Camera switching or mixing—The control room operation by the technical director (TD) or video operator by which he switches camera channels on the air or mixes camera channels on the air by depressing the controlling keys associated with the camera channels.

Camera tube—The electronic tube used in a television camera to translate a scene from light and shade into electrical impulses. The camera tubes used at WRGB are of the iconoscope type.

Cathode ray tube—An electronic tube in which streams of electrons are shot from a cathode and are formed into a narrow beam directed by means of electrostatic or magnetic fields over a target, usually a photosensitive plate or a fluorescent screen which glows wherever the beam strikes it.

Centering control—A control on the receiver for centering the picture either vertically or horizontally.

Channel—The band or channel in the radio spectrum assigned to a television station or to other forms of communication. WRGB operates on Channel 3, 66 to 72 megacycles.

Channel allocation—The channel or band in the radio spectrum to which a television station is assigned, or the channel space in the radio spectrum to which a communications service is assigned.

Cheat—An acting technique, peculiar to all camera work, by which the performer "cheats" on perspective or normal position-relation to other performers or objects. A performer, for instance, would cheat in body position when talking to a seated companion. He would stand close against the chair, facing forward, inclining the head slightly toward the companion without actually looking at him. Thus the television audience could see both persons and they would appear in "normal" perspective to each other on the receiver screen.

Chinese—The feature of a camera dolly which allows the boom to be rotated, thus moving the camera in a horizontal circle without moving the dolly.

Close-up (CU)—A camera view of a subject consisting of a head or head and shoulder picture, or a close view of an object.

Coaxial cable—A specially designed cable which will carry picture signals. It consists of two concentric electrical conductors (a cylindrical conductor with a single wire centered along its length) which are separated by an insulating medium.

Co-incidental survey—A telephone survey made while a show is being telecast or immediately after the program has been on the air.

Conking-out—A term applied to a camera or other equipment which becomes inoperative because of a circuit or tube failure.

Contrast—This refers to the ratio of the dark to the light portions of a television picture. Pictures having high contrast have very deep black and brilliant whites while a picture with low contrast has an over-all gray appearance.

Contrast control—A control on the receiver which regulates the television signal strength, changing the ratio of the dark to the light portions of a picture.

Control room—The portion of a studio in which television cameras and sound are monitored and controlled, and where camera pictures are mixed and switched on the air.

Cut—A control technique by which a scene on a camera is instantaneously switched on or off the air.

D

Damping control—A control on the receiver which aids in removing the horizontal distortion or bulge which may appear on the left side of a picture.

Deflection—The movement of the electron beam in a picture or camera tube by means of electrostatic or magnetic fields.

Deflection yoke—The combination of electrical coils used to direct an electron beam up-and-down and right-to-left to scan an area. (In the camera tube, it is the mosaic that is scanned; in the picture or receiver tube, it is the fluorescent screen.)

Dipole antenna—An antenna consisting of two conductors of equal length in the same straight line, with a pair of lead wires connected at the inner ends, is known as a doublet or dipole antenna. For short waves the physical dimensions are such that self-supporting metal rods or tubes can be used.

Director—The word may be used program-wise or technically. Program-wise: The individual who directs the action of a program. Technically: An additional array which can be used with a dipole receiving antenna to increase the pick-up from the side on which the director is placed.

Dissolve—A control technique by which a picture on a second camera is made to merge with a picture on the air and is gradually brought into full view while the other picture is gradually faded out.

Distortion—Any change in the original frequency, amplitude or phase of a radio signal, consequently distorting the picture at the receiver.

Dolly—The movable stand or base on which a camera is mounted.

Dolly man—The operator who pushes or moves the camera dolly about during a telecast.

Dolly shot—A camera picture which involves the moving of the camera while the picture is on the air, such as dollying in from a long shot to a close-up.

Drapes—The curtains used as stage set backgrounds or used on travelers to curtain off a stage set. At WRGB, the drapes or curtains (they are sometimes called draperies or hangings) are usually referred to by their color, such as the "blues" or the "tans."

E

Edge flare—A rim of illumination around the edge of the picture on the receiver tube.

Electron gun—That part of a cathode ray tube

from which the electrons are emitted and formed into a beam.

Electron lens—An arrangement of electrostatic or magnetic fields which deflects or focuses a beam of electrons in much the same manner as an optical lens focuses a beam of light.

Electronic tube—A device employing a cathode, an anode and possibly additional electrodes for controlling the volume and direction of flow of electrons which constitute electric current.

Elevation plan—A scaled sketch made of stage sections and special props to facilitate construction and painting of the set or props.

Equalizing pulses—These signals are transmitted before and after each vertical synchronizing pulse to insure correct start of the horizontal sweep trace in iconoscope and picture tubes.

F

Fade-in or Fade-out—A control technique by which a scene is gradually brought into view from black level or is gradually dimmed from view to black level.

Field—The word may be used program-wise or technically. Program-wise: The area of a stage set or scene covered by the camera as seen on the receiver tube, depending on the type of lens and distance of the camera from the scene. Technically: Field refers to one set of scanning lines making up a part of the final picture. In present standards, pictures are transmitted in two fields of alternating lines which are interlaced to form a 525 line picture at the rate of 30 complete pictures or frames per second.

Field frequency—This term refers to the repetition rate of the field, which in present television systems is 60 fields per second.

Film loop—A short piece of motion picture film spliced end to end to form a loop, which can be threaded on a projector and run continuously during a show so that it can be brought into the picture sequence as desired.

Film sequence—A portion of a telecast made up of various motion picture scenes; or in a motion picture, the relation of various views of a scene which build into an incident climax.

Film slide or slide film—A slide made on film. This may be a 35mm frame, or it may be a 3¼ by 4-inch negative or positive print.

Flat light—Lighting a scene or stage set with overall brightness without modeling or highlights.

Flats—The canvas sections used for room walls or backgrounds in stage sets. They are usually 9 feet high and are from 1 to 6 feet wide.

Flood-lighting—Focusing the full brilliance of ceiling lights and spotlights on a scene.

Floor plan—A scale diagram indicating the position of stage sets in the studio for a program or a series of programs.

FM (frequency modulation)—See "frequency modulation."

Focusing—Adjusting the optical lens in a camera to bring a scene into clear view on the mosaic, and consequently clearly to the eye when viewed on the related camera picture monitor.

Follow focus—The technique of constantly adjusting the focus of camera lenses while a scene is being shot. Follow focus is required when either cameras or performers move about while a scene is being shot, such as during a dolly shot or during a pan shot while following the movements of a dancer.

Foot-candle—A unit of illumination. The foot-candle is the unit of illumination when the foot is taken as the unit of length. It is the illumination on a surface one square foot in area on which there is uniformly distributed flux of one lumen, or the illumination produced at a surface all points of which are at a distance of one foot from a uniform point source of one candle.

Foreground—The front or forward space of a stage set or playing area.

Frame—One of a series of complete television pictures. In present standards, pictures are transmitted at the rate of 30 frames per second, giving the effect of a moving picture. In relation to film, frame means one complete picture on a 35mm or 16mm film. 35mm motion pictures are projected at the rate of 24 frames per second.

Framing control—This control on the receiver allows the repetition rate of the picture to be ad-

justed to that of the transmitter. It may also be called the vertical hold control.

Frequency—The number of vibrations or cycles in a unit of time. Radio waves fall into low frequencies, high frequencies and ultra high frequencies and micro waves.

Frequency modulation (FM)—A method of radio wave transmission by which the carrier wave varies in frequency in accordance with the sound waves impressed on it while its amplitude (loudness or power) remains constant.

G

Ghost—A secondary image or picture formed on a television receiver screen by a signal from the transmitter which reaches the antenna by more than one path. Ghosts are usually caused by the reflection of the signal by large buildings, hills, etc., near the receiving antenna.

Gray scale—The achromatic color scale or table from white through grays to black, the intermediate grays differing from each other only through a proportional admixture of white and black. For practical printing and photographic purposes, it is a ten-step transition from white through the grays to black. See "television gray scale."

Guard bands—The group of radio frequencies higher and lower than the transmitter carrier channel.

H

Half-lap—A control technique by which two pictures in a dissolve or overlap are both held at maximum simultaneous definition (50 per cent each) so that both are visible to viewers.

Halftone—A method whereby photographs having various degrees of lights and shadows can be reproduced in ordinary printing, using a screen which gives fine or coarse dots. The screen or dots is graded as to size or density so as to produce the highlights, middle tones and shadows of the picture.

Heterodyning—The process of changing the frequency of radio signals by combining them with the output of a radio-frequency oscillator.

High frequency waves—See "frequency."

Highlight—Emphasizing a subject or scene by special painting or lighting effects to make the subject stand out from the rest of the picture. The lighting may be rim lighting, halo effects, etc.

Horizontal centering—The position of a picture with respect to the axis of the cathode ray tube. This is accomplished by a control on the receiver.

Horizontal hold control—A control on the receiver used to adjust the horizontal sweep oscillator so that it will synchronize with the synchronizing signals in the received picture signal.

Hot background—The lighting of a playing area background is too strong, or is caused to be of high illumination. Usually, hot backgrounds are not desirable since there is not enough light contrast between center ground and background, causing the two areas to blend and giving a flat picture. However, a hot background may be desirable for silhouette and dramatic effects.

I

Iconoscope—The tube used in the television camera to convert the light and shadow of a scene into electrical impulses.

ID—Station identification. Film ID—announcing that the program televised is or was reproduced from motion picture film.

Image—The picture or scene focused on the mosaic of the camera tube, or the picture reproduced electronically on the face of the picture tube.

Interference—Spurious electrical signals which cause noise in the sound reproduced by a receiver and which disrupt or tear the received picture.

Interlacing—The picture scanning system in television whereby the odd numbered lines are sent as a separate field and the even numbered lines are then filled in or superimposed to create one frame or complete picture.

Intra-tel—The General Electric intra-store television system for department stores.

Ion burn—A discoloration of the center of the fluorescent screen of a cathode ray tube caused by heavy negative ions striking it.

K

Kinescope—The cathode ray or picture tube which may be used in television receivers and at monitor positions in control rooms.

L

Lap-dissolve—A control technique by which a picture held by a camera is made to merge with another camera-picture on the air. The term, derived from overlap dissolve, has come to mean to hold both pictures at half-lap so that the montage can be seen by viewers before one or the other is gradually taken out.

Lashing flats—Fastening the flats together by their cords or lash lines.

Lateral dissolve—Involves a camera setup and a control technique. One subject is held in the left field of one camera and a second subject or a different view of the first subject is held in the right field of a second camera. One picture is then dissolved in through the other on the air. The pictures may or may not be held at half-lap as desired.

Light bridge—A bridge or control board from which the ceiling and floor lights are remotely controlled and operated.

Light chart—A script or chart indicating the position of the lights and the level of illumination to be used for any given television scene or program.

Light flare—A white spot in the television picture caused by a badly placed floor or spot light.

Light level—The general intensity of illumination on a subject or scene measured in foot-candles.

Light meter—A meter used to measure, in foot-candles, the light levels reflected by stage sets and performers' faces.

Light operator—The technician who directs the placement of lights to achieve a desired stage set effect, or the technician who operates the lights as directed by a light chart during the televising of a program or series of programs.

Line—The horizontal path traced by a moving electron beam on the mosaic of a camera tube or on the fluorescent screen of a picture tube. In a receiver the intensity of the beam or spot along this path is altered in proportion to the intensity of light and shadow of the scene being televised to create that portion of the picture.

Linearity—The uniformity of distribution of a regular pattern on a picture tube. Technically, the term refers to the straightness of a characteristic curve or a portion of that curve that shows the relation between two quantities or circuit factors.

Line frequency—The number of lines scanned each second.

Line of sight—A straight, unobstructed path between two points.

Live talent—Studio or on-the-spot televising of events and people in contrast to the transmission of film material.

Low frequencies—See "frequency."

Lumen—The unit of luminous flux equal to the flux on a unit surface all points of which are at unit distance from a uniform point source of one candle. One lumen per square foot of surface is equal to one foot-candle.

Luminaire—The trade name of the G-E mercury-vapor ceiling light units. A luminaire is a complete lighting unit consisting of a light source, together with its direct appurtenances, such as globe, reflector, refractor housing, and such support as is integral with the housing.

M

Master television station—A fully equipped station capable of originating complex studio shows.

Megacycle—A measure of frequency—one million cycles per second.

Mercury-vapor water-cooled light—A source of light developed by the General Electric Company and used for ceiling and floor light at the WRGB studio.

Microphone boom—The arm which carries the microphone above the playing area being televised.

Microwave—This term generally refers to radio waves having a wavelength of less than one meter, i.e., one having a frequency greater than 300 megacycles.

Middle ground—This term applied to the playing area of a stage set refers to the middle portion of the set as contrasted to the foreground or the background.

Mobile unit—A truck or van equipped with camera, control and monitoring equipment, and transmitter, which can be driven to the scene to be televised. In effect, a mobile unit is a television station on wheels. It relays picture and sound back to the main transmitter so they can be broadcast to the home audience.

Modeling light—A light source so placed and of such intensity as to bring out the contours and volume of a subject. The antithesis of flat light.

Modulation—A process of altering the amplitude, phase or frequency of a radio carrier in accordance with the information to be transmitted.

Monitoring—The technique of controlling the picture shading and other factors involved in the transmission of both a scene and the accompanying sound. Monitoring usually occurs in the control room and at the transmitter.

Monoscope—A television camera tube which contains a simple picture or pattern used for test purposes.

Montage—A series of three or more pictures achieved by superimposing one camera picture over another by means of dissolves.

Mosaic—The photosensitive plate used in an iconoscope or camera tube. The term is also applied to the test pattern placard on which cameras are focused for testing purposes.

Multipath transmission—The condition in which the radio signal from the transmitter travels by more than one route to a receiver antenna usually because of reflections from obstacles. This condition usually results in ghost pictures.

N

Negative ghosts—Ghost pictures in which the black and white areas are reversed.

O

Off-the-cuff—This phrase is used in connection with program productions and indicates that such programs are televised without preliminary camera preparation or rehearsal. Most on-the-scene events are produced off-the-cuff. Many studio shows receive off-the-cuff productions, the producer calling for camera switches and takes as action occurs.

P

Pan or panning (from panorama)—A camera technique by which additional portions of a scene are shown by turning the camera to left or right in a horizontal plane.

Panchromatic film—Film that is sensitive to light of all colors and which reproduces all colors in their true gray scale values.

Pedestal—The solid base on which a camera may be mounted. Such a base is equipped with small casters so that the pedestal and camera can be moved rapidly from position to position.

Phase—A term used to designate the time relation between the maximum points of two recurrent electrical quantities.

Picture line standard—See "line." The number of horizontal lines scanned per second for each image or frame. The present U.S. television standard is 525 lines per image.

Picture noise—Interference signals causing spots of light and other irregular patterns on the receiver picture.

Picture signal—See "signal." The electrical impulses which represent the video or picture elements being transmitted.

Picture tube—An electronic tube used in the television receiver.

Playing area—The physical space in a studio occupied by a stage set in which a scene is played.

Program ratings—An arbitrary rating system adopted by television stations to rate viewer reactions to shows.

Properties (props)—All the physical items of a show or program, except the costumes and

scenery, required for performer business or to furnish the stage set.

R

Radio channel—See "television channel." The "space" in the radio frequency spectrum allocated to each station or service. In present television standards a channel is 6 megacycles wide.

Rake—A term used in connection with stage scenery. To rake a set or flat means to shift its position or angle of alignment for more suitable stage set placement.

Reflector—A part of an antenna system used to reduce the pick-up of signals from one direction and to increase it from the opposite direction.

Relay station—A station used to receive picture and sound signals from a master station and to transmit them to a second relay station or to a television station transmitter.

Remote pick-ups—Events televised away from the studio by a mobile unit or by permanently installed equipment at the remote location.

Retrace lines or return trace—The lines on the fluorescent screen of an electronic tube formed as the cathode ray beam moves back to its starting point.

Return flats—Narrow scenery flats added to the sides of a stage set to extend or confine the background so that cameras shooting at angles will not get off set background in the picture. Return flats are also used to add depth to some architectural features of stage sets, such as a window return or a mantel breast return. These return flats are placed in back of the window or mantel.

Rim lighting—Spotlighting from the back, designed to bring individual subjects out of the background by virtue of their brightness; i.e., "rim light" around the edges of the subject.

S

Satellite television station—A station which is programmed in whole as far as live talent is concerned from a network. It may supplement its program schedule by local newsreel films or remote pick-ups. Such a station may serve a community outside the service area of a master station.

Scanning—The process of deflecting the electron beam in a camera or picture tube so that it moves at high speed from left to right in a sequence of rows or lines from top to bottom, thus changing light and shadows of a scene into electrical impulses to form the image on the receiver tube.

Scanning line—One line from left to right of a picture being transmitted.

Scene—The term may be used in a television sense and in its theatrical meaning. Television: The momentary picture or camera take being televised. Theater: a) A portion of a program or play; or b) the locale or mood of a program which "sets the scene."

Screen—The fluorescent face of the picture tube in a receiver, or a retractable screen or wall screen used in conjunction with a projection-type receiver.

Script—The manuscript or written form in which a television program appears.

Set—This term may refer to: a) a stage set, or b) a television receiver.

Shading—The process of correcting the light distribution in the image produced by the television camera. This is part of the station monitoring job.

Signal—There are two signals involved in transmitting a television program—the picture or video signal and the sound or audio signal. Each signal, therefore, contains the electrical impulses which represent the sound or picture elements being transmitted.

Size control—Controls on a television receiver for increasing or decreasing the picture size, both horizontally and vertically.

Slide—A card, piece of glass or film of specific size on which is a drawing or picture which is to be televised through a film or slide projector. Slides may be made on 35mm film, or on 3¼ by 4-inch glass, film or opaque cards.

Sound signal—See "signal."

Spectrum—A band or range of frequencies.

Speed control—Controls on a television receiver, sometimes called the hold controls, which can be regulated to hold the received picture in horizontal and vertical synchronization.

Split focus—Adjusting the focus of a television camera midway between two subjects when one is in the foreground and the other in the rear. This is usually done in two-shots to give both subjects equal dramatic value.

Spot—The light produced by the beam of electrons on the fluorescent screen of the cathode ray picture tube as the beam scans a line or an image from left to right.

Spotlight—A type of luminaire or light source designed to direct its output onto a relatively small area of a scene or stage set. It is usually used for rimming or highlighting, or for other special effects or purposes.

Stock shots—Film shots taken of people, objects or places as they made news, or special portions of motion pictures, which have been filed for possible re-use. These shots are usually available at film libraries or from the files of newsreel or motion picture organizations. Stock shots can be used for pictorial value or story emphasis in televising studio programs.

Strike set—Dismantle a stage set.

Sweep—A term used to describe the motion of the electron beam in a picture or camera tube.

Switch—A control technique—the instantaneous cutting from one camera to another.

Synchronization—The process of keeping the moving beam of electrons in a picture tube in a receiver in step with the beam in the studio camera tube so that both beams move in synchronism.

T

Take—As a noun: a) A picture or scene held by a television camera; b) such a scene so televised or filmed. As a verb: A command to switch a camera on the air.

TD—The TD is the technical director or video operator.

Tears—The horizontal disturbance in a television picture caused by noise which makes the picture appear to tear apart.

Telecast—A television program, or a television broadcast.

Telecasting—Broadcasting a television program.

Televiewers—The spectators or audience watching a television show on a receiver.

Televising—The process of camera-shooting and telecasting a program.

Television—Literally, seeing at a distance. A system of communications in which a picture scene is transmitted by dividing it, by a scanning process, into a great number of minute electrical signals. The electrical signals are received and changed back into light and shade to correspond with the original picture as seen by the television camera.

Television camera tube—An electronic tube used to convert the light and shade of a scene into electrical signals.

Television gray scale—This scale, which indicates the resolution of colors in scenery, costumes and performers' faces into corresponding gray values in black-and-white television, has a shorter contrast range than in most other photographic media. It may vary from a five-step gray scale (white, light gray, medium gray, dark gray, and black) to more sensitive brilliance of the various gray values, depending upon light source and equipment factors, to approach the ten-step transition (from white through the grays to black) of the photographic and printing gray scale. See "gray scale."

Test pattern—A drawing containing a group of lines and circles, etc., transmitted for receiver adjustment and transmitter test purposes.

Tilt—A camera technique by which additional portions of a scene are shown by aiming the camera up or down (tilting it up or down) in a vertical plane.

Title slides—Slides, either drawings or film, which announce the title and credits of a program.

Truck shot—A camera technique by which a line of

performers (a chorus, for instance) or a scene is covered by dollying the camera along the line of subjects or along the scene while the camera is on the air.

Two-shot (or 2-shot)—A camera shot of two people or objects.

U

Ultra high frequency waves—See "frequency."

V

Vertical centering—The control which regulates the position of the picture vertically on the screen of the receiver tube.

Vertical hold—See "framing control."

Video (I see)—That portion of the television signal which contains the picture information. Video is also loosely used as a synonym for television.

View finder—A ground glass or mirror connected with the optical focusing lens system in a camera enabling the cameraman to compose and focus a scene on the mosaic of the camera tube.

Viewing mirror—A mirror used to reflect the image formed on a picture tube in indirect-view receivers at a convenient viewing angle.

Views—The scenes being televised.

W

Warning lights—Red and green lights associated with each studio camera to warn the cameramen and performers that a camera is about to go on the air (green light), sometimes called the preview light, or that the camera is on the air (red light).

Weekly rating report—A postal card on which set owners rate the programs seen each week. See "program ratings."

Y

Yoke—A set of coils used around the neck of an electronic camera or picture tube to produce the horizontal and vertical deflection of the electron beam. See "deflection yoke."

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